

- USAFOEHL REPORT

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First Article Noise Survey of the A/F32T-9 Large Turbo Fan Engine Enclosed Noise Suppressor System, Far-Field Noise, Ellsworth AFB SD

ALI Y. ALI, 1Lt, USAF, BSC

February 1988

Final Report



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USAF Occupational and Environmental Health Laboratory
Human Systems Division (AFSC)
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The A/F32T-9 Large Turbo Fan Engine, Enclosed Noise Suppressor System (T-9 NSS) at Ellsworth AFB SD was surveyed to determine noise levels at 100 meters (m). With an F101 engine operating at afterburner power the highest measured Overall Sound Level, A-Weighted (OASLA) was 78.4 dB(A). The measured OASLA values exceeded the 77 dB(A) criterion at only 7 of the 18 sampling positions at a range from 0.3 to 1.4 dB(A).									
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I. INTRODUCTION

A. Purpose: This report provides the results of the analyzed noise data recorded during the survey of the modified A/F32T-9 Large Turbo Fan Engine Noise Suppresser System (T-9 NSS) at the 28 FMS facility, Ellsworth AFB SD. Comparisons of the noise emission attenuation of the modified T-9 NSS at Ellsworth AFB relative to the ones at Sky Harbor IAP and McConnell AFB are also illustrated. The Air Force Hush House program management office, SA-ALC/MMIMH, Kelly AFB TX, requested the noise survey to support their First Article Test (FAT) on the Ellsworth AFB T-9 NSS facility. The results of this report provide the necessary acoustical information for determination of Air Force acceptance of the facility.

B. Problem: Under favorable survey conditions, the collective results of the First Article Test of the T-9 NSS at Sky Harbor IAP, Phoenix AZ, indicated the system was exceeding the maximum contractually specified noise criteria emission of 77 dB(A) at 21 out of the 24 measured stations. As a result, the T-9 NSS was modified with an acoustic stack and baffles on the exhaust, and a reassessment survey was conducted at the Ellsworth AFB T-9 NSS facility to evaluate its effectiveness in meeting the specified criteria.

C. Scope: Far field noise data are reported, summarized and compared with the 77 dB(A) criterion. The Ellsworth AFB survey results are summarized by presenting the far field A-Weighted Overall Sound Level (OASLA) for background noise with no engine operating and then with an F101 engine operating at afterburner power under two separate modification configurations. One of the two configurations was an acoustically lined exhaust stack by itself, and the second had the same exhaust stack modified with three acoustic baffles across the exhaust opening. Additionally, data summary comparison between the Sky Harbor T-9 NSS and the Ellsworth AFB T-9 NSS are presented for each of the 18 comparable (100 meter) sampling locations.

II. DISCUSSION

A. Survey Methods: Far field noise data from the modified T-9 NSS were collected at a distance of 100 meters from the defined center of each one of the two noise sources of the test cell at ten degree increments. Figure 1 shows the facility orientation relative to the 18 sampling points. Reference 2 describes the rationale behind the designation for the two noise source center points and the 100 meter semicircles. The same logic is applied for the two quarter circles in this report. The rationale for considering test points 0-18 is the symmetrical impact of the noise on both sides of the plane passing through the longitudinal centerline of the T-9 NSS. Thus, two quarter circles provided the necessary data for the evaluation of the system. The location of building 1501 prohibited test point 18 from being surveyed.

Three portable tape recording systems (designated as systems 1, 2, and 3) were used by three teams to acquire approximately 20 seconds of data on an audio tape for later analysis at USAFOEHL. Each team was assigned to one system to allow maximum coverage within the five minute continuous operating constraint of the engine while running at afterburner.

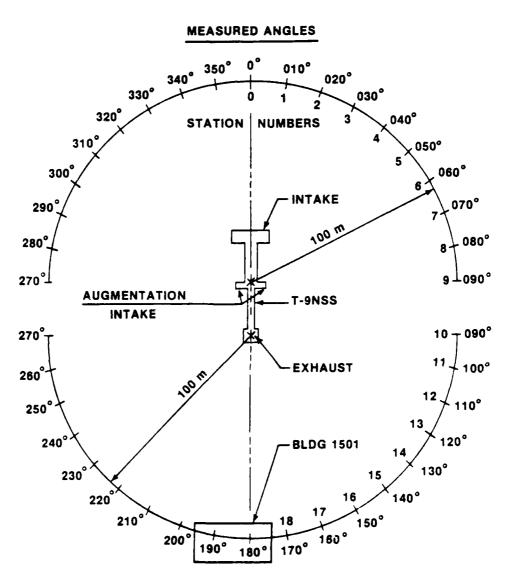


FIGURE 1: SCHEMATIC DIAGRAM OF SAMPLING POSITIONS FOR SURVEY OF A/F32T-9 LARGE TURBO FAN ENGINE ENCLOSED NOISE SUPPRESSOR SYSTEM, ELLSWORTH AFB, SD.

The microphone attached to a hand-held pole was pointed at the center of the source (0 degree incidence) and vertically scanned the source from 0.5 to 3 meters for a duration of 20 seconds during data acquisition. The same procedure was repeated at each measurement location during data collection. These samples were then time integrated on a one-third octave band digital frequency analyzer to derive the root-mean square sound pressure levels. Vertical scanning and time-integrating together reduced the anomalies frequently present in data acquired with a fixed height microphone.

Correlation between the three systems was verified for each configuration by collecting samples at station ten. The three systems were synchronized to collect the same segments of data at the same interval.

- B. Data Analysis: Samples acquired from each test location were played through an oscilloscope before being fed into the analyzer for quality assurance and quality control. Then usable data was fed into the computerized analyzer for analysis, reduction and reproduction of tables and graphs.
- C. Survey Results: The Overall Sound Pressure Level(OASPL) and the Overall A-Weighted Sound Level (OASLA) values are presented as functions of the measurement location, power setting of the F101 Engine, and the configuration of the T-9 NSS modification. OASLA results of this survey are presented and summarized in Table 1 and also plotted on Figure 2 polar plot. The Figure 2 polar plot also shows the 77 dB(A) criterion line. Table 2 shows the noise reduction (OASLA) of the Ellsworth AFB T-9 NSS relative to the one at Sky Harbor IAP. Reduced OASLA and OASPL data for each run (round of sampling) at Ellsworth AFB are provided in Tables 1 through 3 (Appendix A). Results of the one-third octave band analysis between 5 Hertz (Hz) and 10 Kilohertz (kHz) are provided in Appendixes B, C, and D. Due to the five minutes maximum engine operating time constraint at afterburner and running out of fuel, stations 1 through 4 were not surveyed during Stage 2 (Run No. 3).

Background noise levels were measured at each of the 18 stations (sampling locations) to obtain representative data, apply corrections if applicable, and provide accurate assessment of noise levels generated by the source. For accurate measurement of a source noise level at a location, the background data should be at least ten or more decibels below the combined measured noise level of both the source and the background. If the difference between the measured noise level (while the source is included) and the ambient (background) noise level is 20 dB(A) or more, correction is not applied. Thus, background corrections were not applied due to their negligible magnitude.

Meteorological data was recorded every 15 minutes during the survey. Data was recorded from 1700-1830 during Stage 1 (run 1) on 14 Oct 1987 and from 1000-1130 during Stage 2 (runs 2 and 3) on 15 Oct 1987. Weather conditions were within the acceptable ranges. Due to a measured barometric pressure of 26.5 inches of mercury, the correction factor of minus one decibel (-1 dB) was applied to the 93.8 dB calibration signal upon playback.

III. FINDINGS

The Ellsworth T-9 NSS survey was conducted under two stages of modification. The two stages consisted of three runs. Run 1 survey was conducted under Stage 1 modification with one round of sampling. Runs 2 and 3 surveys were conducted under Stage 2 modification with one round of sampling for each run. Stage 1 modification consisted of the installation of an acoustic stack inside the exhuast deflector. Stage 2 modification consisted of Stage 1 modification with the addition of three acoustical baffles across the face of the exhaust stack to enhance noise attenuation.

Tables 1 and 2 supplemented by Figure 2 reveal major and minor areas of noise attenuation improvements at each stage of modification. The major improvements (compared with the Sky Harbor IAP facility) occurred during the Stage 1 (Run 1) survey. When compared with Stage 1, Stage 2 (Runs 2 and 3) with the three baffles installed in the stack, a reduction in OASLA at locations 0, 16, 17, and 18 by 0.5, 0.2, 0.3, and 2.1 dB(A) was observed. At the same time, an increase in OASLA at locations 1, 2, 3, 4, 13, and 14 by 0.8, 1.4, 0.7, 0.7, 0.3 and 0.2 was observed. Compared with the Sky Harbor facility, Stage 2 modification indicated an OASLA reduction range between 3.1 to 10.5 dB(A).

IV. CONCLUSIONS

Although the T-9 Noise Suppressor System at Ellsworth AFB still did not technically meet the criteria of 77 dB(A) at all locations measured at 100 meters, there were major improvements over the results obtained at the Sky Harbor facility. Only 7 out of the 18 surveyed locations at the Ellsworth AFB T-9 NSS facility exceeded the 77 dB(A) criteria level by a range of only 0.3 to 1.4 dB(A). Two out of these seven locations were measured at 1.1 and 1.4 dB(A) above the criteria. The other 5 locations were measured less than 0.7 dB(A) above the criteria. The highest Overall Sound Levels (OASLA) were measured around the exhaust stack.

This facility was conditionally accepted by SA-ALC/MMIMH immediately after the survey. Since the Ellsworth T-9 NSS was accepted without technically demonstrating it could meet the acceptance criteria, the AF Hush House program management office has specified the T-9s will be constructed with four baffles across the exhaust stack instead of three.

V. RECOMMENDATIONS

For quality assurance and quality control, we recommend each T-9 NSS be surveyed for noise emissions at each site of installation. Noise impact of the system is a function of the surrounding environment. The survey can be conducted using a hand held sound level meter. Flat-weight and A-weight measurements should be obtained at least every 20 degrees at 100 meters distance from the T-9 NSS.

Table 1: A-Weighted Overall Sound Level (OASLA) Versus Angle for the Ellsworth T-9 NSS with an F101 Engine. (All measurements were taken at a radius of 100 meters).

]	 		AFTERBURNER OASLA [dB(A)]						
STATION	ANGLE	BACKGROUND OASLA [dB(A)]		STAGE 1 (RUN 1)	(RUNS 2	STAGE 2 (RUNS 2 & 3)				
#		MINIMUM	MAXIMUM		MINIMUM	MINIMUM MAXIMUM				
0	0	49.4	53.7	72.3	71.8	74.9*	0			
1	10	50.1	52.3	72.0	72.8	75.1*	0			
2	20	47.3	50.1	72.2	<u> 73.4</u>	73.6	0			
3	<u> </u>	47.2	52.4	74.2	73.7	74.9	0			
4	40	45.4	48.2	75.1	75.3	75.8	0			
5	50	49.1	51.8	75.5	75.1	75.5	1 0			
6	60	49.0	54.2	**	72.5	75.1	0			
7	70	47.6	48.9	**	73.0	74.3	O			
8	80	45.2	51.5	**	74.6	74.8	0			
9	90	47.7	48.7	**	74.7	75.1	0			
10	90	46.9	49.5	••	76.8	78.1	1.1			
11	100	48.3	50.6	7 **	76.9	77.3	0.3			
12	[110]	47.2	54.0	1 **	77.0	77.7	0.7			
13_	120	42.9	47.2	76.0	75.9	76.3	i 0 i			
14	130	43.6	48.7	76.5	76.1	76.7	0			
15	140	43.4	48.5	77.4	76.2	77.4	0.4			
16	150	44.9	49.0	77.6	76.4	77.4	0.4			
17	160	45.3	52.6	178.7	76.3	78.4	1.4			
18	170	44.6	45.4	79.7	77.4	77.6	0.6			

Stage 1: T-9 NSS with acoustic stack modification without baffles.

Stage 2: T-9 NSS with acoustic stack modification and three acoustic baffles.

^{*} Unusable data due to flyover interference.

^{**} No data available due to System Number 2 Microphone Preamplifier failure during that round of data collection.

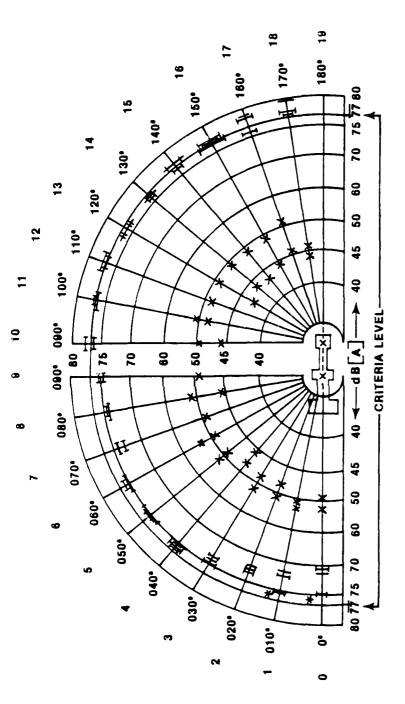


FIGURE 2: OVERALL SOUND LEVEL, A-WEIGHTED (OASLA) [d B(A)] (ALL MEASUREMENTS COLLECTED AT A DISTANCE OF 100 METERS). VERSUS ANGLE FOR AN F101 ENGINE AT AFTERBURNER POWER.

LEGEND

... BACKGROUND DATA ×

... AFTERBURNER DATA

... AFTERBURNER DATA WITH 3 ADDITIONAL Ι

BAFFLES

H-1*... QUESTIONABLE DATA

DUE TO WIND AFFECT

AND FLY OVER INTERFERENCE

Table 2: Comparison of the A-Weighted Overall Sound Level (OASLA) Reduction (A-Weighted Decibels) between the T-9 NSS Facilities at Ellsworth AFB, Sky Harbor IAP, and McConnell AFB at afterburner power. (All data presented in dB(A) at a radius of 100 meters).

STATION		McCONNELL AFB	HARBOR	STAGE 1		NOISE	STAGE 2 NOISE REDUCTION	ELLSWORTH STAGE 1- STAGE 2
	<u></u>	Α	i B	C	D	B-C	B-D	C-D
0	0	85	75.9	72.3	71.8	3.6	4.1	+0.5
1	10		76.2	72.0	72.8	4.2	3.4	-0.8
2	20		76.8	72.2	73.6	4.6	3.2	-1.4
3	30	•	77.9	74.2	74.9	3.7	3.0	-0.7
4	40	67	79.6	75.1	75.8	4.5	3.8	-0.7
5	50	80	80.2	75.5	75.5	4.7	4.7	. 0
6	60	80	80.7	••	75.1	••	5.6	••
7	70	80	79.7	1	74.3	••	5.4	••
8	80	83	80.3	••	74.8	••	5.5	••
9	90	86	81.0	••	75.1	i ••	5.9	••
10	90	86	85.4		78.1	••	7.3	••
11	100	85	84.0		77.3	••	6.7	••
12	110	79	85.8	••	77.7	**	8.1	••
13	120	83	85.2	76.0	76.3	9.2	8.9	-0.3
14	130	86	84.5	76.5	76.7	8.0	7.8	-0.2
15	140	87	84.2	77.4	77.4	6.8	6.8	a
16	150	91	85.9	77.6	77.4	8.3	8.5	+0.2
17	160	91	87.0	78.7	78.4	8.3	8.6	+0.3
18	170	92	88.1	79.7	77.6	8.4	10.5	+2.1

^{*} No data available due to building 1169 interference at this location.

^{**} No data available due to System No. 2 Microphone Preamplifier failure during Run No. 1 (Stage 1).

REFERENCES

- 1. Jenkins, Jeffery C., Capt, USAF, BSC, Terry M. Fairman, Capt, USAF, BSC, <u>First Article Noise Survey of the A/F32T-9 Large Turbo Fan Engine Enclosed Noise Suppresser System, Sky Harbor IAP. Phoenix AZ</u>, USAFOEHL Report 87-082EH0186FNA, USAF Occupational and Environmental Health Laboratory, Brooks AFB TX (1987)
- 2. Fairman, Terry M., Capt, USAF, BSC, First Article Noise Survey of the A/F32T-9 Large Turbo Fan Engine Enclosed Noise Suppresser System.Far-Field Noise, McConnell AFB KS, USAFOEHL Report 87-068EHN118ENA, USAF Occupational and Environmental Health Laboratory, Brooks AFB TX (1987)

APPENDIX A
SAMPLING LOCATIONS AND DATA RESULTS

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Table A-1: Stage 1 Condensed Overall Sound Pressure Levels - Non-Weighted - (OASPL) and Overall Sound levels - A-Weighted - (OASLA) for Ellsworth AFB T-9 NSS at a Radius of 100 meter. (Run No. 1)

RUN	SYSTEM	STATION	ANGLE	STAC			GROUND
	 	 	1	OASPL (dB)	•	OASPL (dB)	OASLA [db(a)]
	<u> </u>		<u> </u>				
1	1) 0	0	102.4	72.3	71.4	53.7
	!	1	10	102.5	72.0	68.1 ¹	52.31 1
		2	20	100.4	72.2 ¹	69.3	50.0
	Į	3	30	103.4	74.2	63.6 ¹	52.4 ¹
	ĺ	4	40	103.8	75.1	69 3	47.7
	l	5	50	104.7	75.5	•	
	2	6	60	**	1 • • 1	70.3 ²	49.3 ²
		7	70	••	1 ••1	71.4	47.6
		8	80	1 **	••	69.6	45.8
	ļ	9	90	**	••	66.8	47.2
	1	10	90	**	••	66.6	48.5
		11	100	**	••	65.6	48.7
1	l	12	110	••		66.6	47.2
	3	13	120	105.9	76.0	62.9	42.9
		14	130	106.2	76.5	67.9	43.8
		15	140	105.8	77.4	66.7	43.4
		16	150	106.4	77.6	72.3	44.9
		17	160	106.4	78.7	72.1	45.3
		18	170	106.4	79 .7	67.0	44.6

No usable low frequency data available for frequencies below 12.5 Hz. OASPL and OASLA values calculated for data from 12.5 Hz to 10 KHz.

²No usable high frequency data available for frequencies above 5 KHz. OASPL and OASLA values calculated for data from 12.5 Hz to 5 KHz.

^{*}System overload, no usable background data available for analysis.

^{**}No available data due to system No. 2 Microphone Preamplifier failure.

Table A-2: Stage 2 Run No. 2 Condensed Non-Weighted Overall Sound Pressure Levels (OASPL) and A-Weighted Overall Sound Level (OASLA) for Ellsworth AFB T-9 NSS at a Radius of 100 meter.

			[ST	AGE 2	BACK	GROUND
RUN	SYSTEM	STATION	ANGLE	OASPL	OASPLA	OASPL	OASPL
j		1	1	(dB)	[dB(A)]	(dB)	[dB(A)]
l	L	<u> </u>			<u> </u>	<u></u>	<u></u>
2	1	0	0	101.11	1 74.9¹	72.9(67.7)	49.4(49.4)
	1	1	10	102.5	72.8	66.9(67.0)	[51.9(50.1)
	j	2	20	102.5	73.6	65.8	50.1
	ļ	3	30	102.9	74.9	79.4(68.8)	47.2(47.9)
	Į	4	40	103.9	75.8	73.2(71.2)	45.4(48.2)
		5	50	104.2	75.1	73.7(68.9)	51.6(51.8)
	l	<u> </u> 	l		<u> </u>	<u> </u>	<u> </u>
	2	i o	0	102.4	71.8	67.7	49.4
		1	10	102.1	75.1	67.0	50.1
	1	2	20	101.8	73.4	65.8	50.1
}	}	3	30	101.5	73.7	68.8	47.9
1	1	4	40	103.0	75.3	71.2	48.2
(· 	5	50	103.9	75.5	68.9 ²	j 51.8 ²
	ţ	6	60	103.9	75.1	70.3	49.0
ĺ	İ	7	70	103.2	74.3	71.1	48.9
i 1	1	j 8	80	103.6	74.8	73.4	51.5
i i		9	90	103.5	75.1	76.1	48.7
	3	10	90	104.6	78.1	72.2	49.5
1 1		11	100	105.1	76.9	75.8	48.3
		12	110	104.8	77.7	73.9	54.0
(13	120	105.1	76.3	78.2	47.2
1 1	i	14	130	105.6	76.7	74.7	48.7
		15	140	105.9	76.5	75.4	48.5
		16	150	106.3	76.4	76.0	49.0
		17	160	105.5	76.3	72.5	52.6
	L	18	170	101.73	71.8 ³	69.5	45.4

OASPL and OASLA Values calculated for data from 12.5 Hz to 10 KHz.

²Background data from Run No. 3.

³Not usable data, Engine was not operating at Afterburner power

^()Indicates a second sample collected by the same system at the same location at a different time.

Table A-3: Stage 2 Run No. 3 Condensed Non-Weighted Overall Sound Pressure Levels (OASPL) and A-Weighted Overall Sound Levels (OASLA) for Ellsworth AFB T-9 NSS at a Radius of 100 meters.

] 	 	 		STA	IGE 2				BAC	KGROU	DIND		
 	[,	OASPL -WEIGH B)		A-W	ASLA (EIGHT (A)]	ED	•	OASF ON-WEIG (db)		A- \	OASLA WEIGH1 IB(A)]	ΈD
 STATION 	 ANGLE 	 	SYSTE	M	SYS	STEM	!	SYSTEM		!	SYSTEM		
 		 1	2	3	1	2	3	; 1	2	3	1	2	3
0	0	***	***	***	***	***	***	•	66.7		•	52.7	
1	10	***	***	*** j	***	***	***	•	68.2	•	•	50.1	•
2	20	***	***	***	***	***	***	•	64.6	•	•	47.3	• 1
3	30	***	***	***	**	***	***	•	66.1	•	1 *	47.5	•
4	40	***	***	•••	**	***	***	•	67.6	•	•	48.0	•
5	50	104.5	•	•	75.1	•	•	•	68.5	•	•	49.1	•
6	60	 103.9	•	•	72.5	•	• 1	•	68.6	•	 •	54.2	•
7	70	103.2	•	•	73.0	•	• į	•	65.6	•	•	48.9	•
8	80	104.0	•	•	74.6	•	• i	•	65.2	•	•	45.2	•
9	90	104.1	•	•	74.7	•	• í	•	63.6	•	i •	47.7	•
10	90	•	105.0	104.6	•	76.8	78.1	•	•	63.5	į •	•	46.9
11	100	•	105.1	104.6		77.2	77.3 l	•	•	63.6	{ 1 •	•	50.6
12	110	•	105.1	105.0	•	77.1	77.0 j	•	•	62.1	•	•	47.8
13	120	•	105.7	105.0	•	76.2	75.9	•	•	64.6	·	•	45.7
14	130	•	106.3	105.6		76.6	76.1	•	•	63.2	•	•	43.6
15	140	•	105.9	106.6	•	76.2	77.4	•	•	75.4	į •	•	48.5
16	 150	•	106.9	106.5	 •	77.4	77.0 j	•		76.0	! !	•	49.0
17	160	•	107.2	106.4	•	78.4	77.9	•	•	72.5	j •	•	52.6
18	170	•	106.2	107.2	•	77.4	77.6	•	•	69.5	•	•	45.4

No data collected by the system at the indicated location.

No data available due to the 5 Minutes Maximum Engine Operating Time Constraint at Afterburner. At the same time, the fuel tank ran out of fuel.

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APPENDIX B

Stage 1 (Run 1) 1/3 Octave Band Data

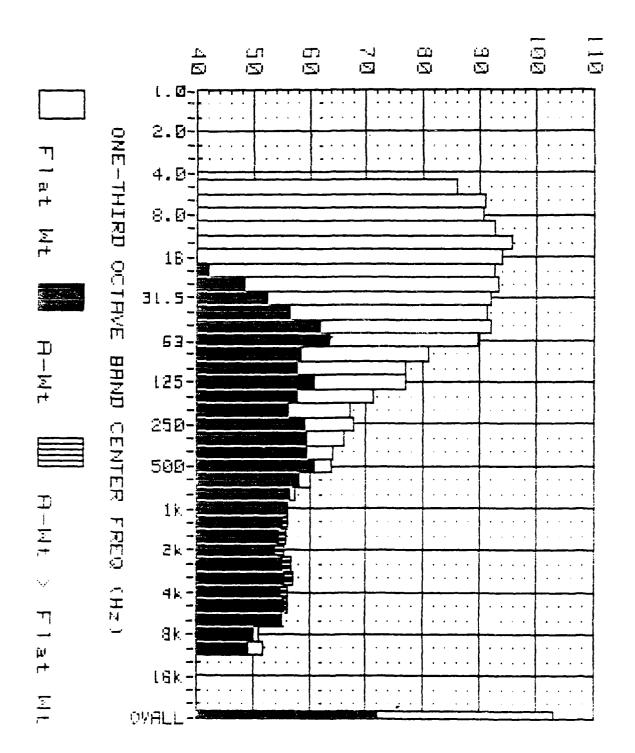


Figure 1: Measured Noise Spectrum (SPL us A-Wt Levels).
Location: 82F32T-9 NSS. Elloworth AFB SD.
Station: 0: Angle: 0 Degree: Gistance: 100 Meters
Logine: F10T: Power: Afterburner: Temp: 44 Degree F
San Press: 907.7 mbart Rol Humiditu: 87%; Winds: 5 knots

Table 1: Measured Noise Spectrum Levels. Location: MZF32T-9 NSS. Ellsworth AFB SD.

Station: 0; Angle: 0 Degree; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degree F Bar Press: 907.7 mBar; Rel Humid:ty: 87%; Winds: 5 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	R-UT SOUND LEVEL CdB(A)]	EGB(C)] FENET C-M1	OCTRUE BAND SPL (dB)	A-UT OCTAUE BAND SL Cd8(A)]	CQB(C)] BUND ST BUND ST C-M1
5	85.9	0.0	0.0			
6.3	90.8	0.0	0.0			
8	90.7	0.0	0.0	96.2	22.2	78.3
10	92.6	22.2	78.3	<u> </u>		
12.5	95.7	32.3	84.5			
16	94.1	37.4	85.6	99.0	43.7	90.3
20	92.6	42.1	86.4			
25	93.3	48.6	88.9			
31.5	91.8	52.4	88.8	96.9	58.4	93.7
40	91.1	56.5	89.1			
50	91.9	61.7	90.6			
63	89.6	63.4	88.8	94.1	66.4	93.1
80	81.0	58.6	80.5			
100	77.0	57.9	76.7			
125	77.0	60.9	76.8	80.6	63.9	80.3
160	71.3	57.9	71.2			
200	67.2	56.3	67.2			
250	67.9	59.3	67.9	71.9	63.4	71.9
315	66.1	59.5	66.1			
400	64.2	59.4	64.2			
500	63.9	60.7	63.9	67.9	64.3	67.9
630	60.2	58.3	60.2			
800	57.4	56.6	57.4			
1000	56.0	56.0	56.0	61.1	61.0	61.1
1250	55.5	56.1	55.5			
1600	54.8	55.8	54.7			
2000	54.3	55.5	54.1	59.7	60.9	59.5
2500	55.5	56.9	55.2			
3150	55.9	57.2	55.4			
4000	55.3	56.3	54.5	60.4	61.3	59.6
5000	55.6	56.1	54.3			
6300	55.2	55.1	53. <i>2</i>	•		
8000	51.1	50.0	48.1	57.8	57.0	55.1
10000	51.7	49.2	47.3			

OUERALL LEUELS (5 - 10000 Hz)

OASPL = 103.1 dB OASEC = 97.5 dB(C)

OASLA = 72.3 dB(A) C-A UALUE = +25.3

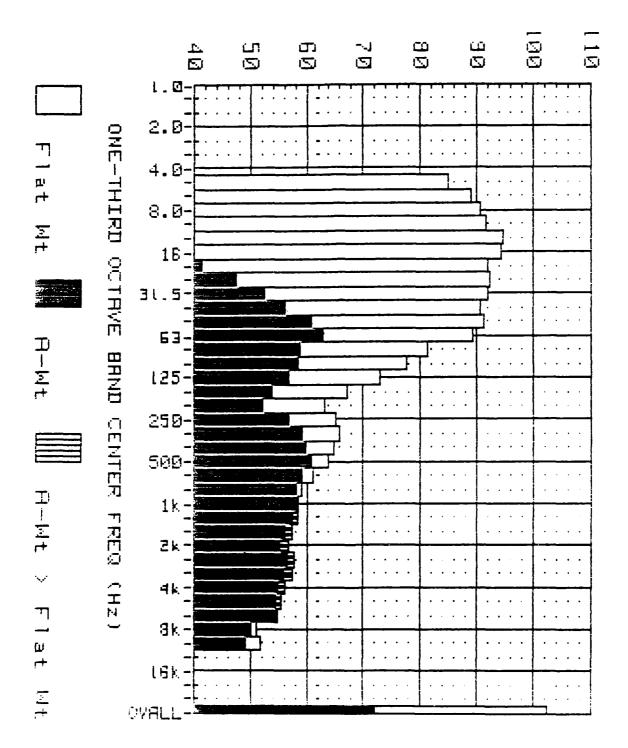


Figure 2: Measured Noise Spectrum (SPL us A-Wt Levels). tocation: 8/f32I-9 NSS. Ellsworth AFB SD. Itation: 1: Angle: 10 Degree: Distance: 100 Meters Engine: F10I: Power: Atterburner: Temp: 44 Degree F Bar Press: 907.7 mWar: Rel Humidity: 87%; Winds: 5 Knots

Table 2: Measured Noise Spectrum Levels. Location: 9/F32T-9 NSS. Ellsworth AFB SD.

Station: 1; Angle: 10 Degree; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degree F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	EGB(B) CGB(B) CGB(B)	CGB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	85. U_	0.0	0.0			
6.3	88.8	0.0	0.0			
8	90.5	0.0	0.0	95.2	21.3	77.4
10	91.7	21.3	77.4			
12.5	94.5	31.1	83.3			
16	94.4	37.6	85.8	98.5	43.3	89. 9
20	92.1	41.6	85.9			
25	92.3	47.6	87.9			
31.5	91.8	52. 4	88.8	96.4	58.1	93.3
40	90.7	56.1	88.7			
50	91.1	60.9	89.8			
63	89.1	62.9	88.3	93.5	65.9	92.4
80	81.3	58.8	80.7			
100	77.5	58.4	77.2			
125	72.8	56.7	72.6	79.1	61.5	78.8
160	67.3	53.9	67.2			
200	63.2	52.3	63.2			
250	65.3	56.7	65.3	69.7	61.7	69.7
315	65.8	59.2	65.8			
400	64.8	60.0	64.8			
500	63.9	60.7	63.9	68.3	64.8	68.3
630	61.0	59.2	61.0			
800	59.0	58.2	59.0			
1000	58.6	58.6	58.6	63.3	63.2	63.3
1250	57.9	58.5	57.9			
1600	56.4	57.4	56.3			
2000	55.6	56.8	55.4	61.0	62.2	60.8
2500	56.7	58.0	56.4			
3150	56.3	57.5	55.7			
4000	55.3	56.3	54.5	60.3	61.2	59.5
5000	54.8	55.3	53.5			
6300	54.7	54.6	52.7			
8000	51.1	50.0	48.1	57.6	56.7	54.8
10000	*51.7	49.2	47.3			

OUERALL LEVELS (5 - 10000 Hz)

0ASPL = 102.4 dB 0ASLC = 97.0 dB(C) OASLA = 72.0 dB(H) C-A UALUE = +24.9

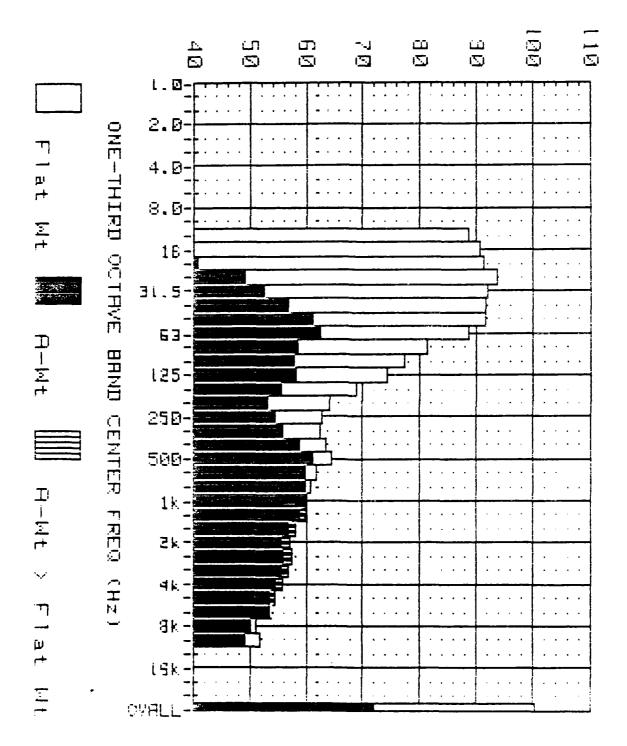


Figure 3: Measured Noise Spectrum (SPL us R-Wt Levels).
Location: H/f32I-9 NSS. Ellsworth RF8 SD.
Station: Ct. Angle: 20 Degree: Distance: 100 Meters
Logice: C16I: Power: Afterburner: Lemp: 44 Degree C
Bar Press: 907.7 mBar: Rel Humidity: 87%: Winds: 5 Knots

Table 3: Measured Noise Spectrum Levels.
Location: A/F32T-9 NSS. Ellsworth RFB SD.

Station: 2; Angle: 20 Degree; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degree F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	CGB(C)] SOUND LEVEL	GOTAVE BAND SPL (dB)	A-MT OCTAVE BAND SL EdB(A)]	C-MI CCTANE BAND SL C-MI
12.5	88.5	25.1	77.3			
16	90.5	33.8	82.0	95.0	41.6	87.2
20	91.2	40.7	85.0			
25	93.7	49.0	89,3			
31.5	92.0	52.6	89.0	97.3	58.8	94.1
40	91.5	57.0	89.5			
50	91.5	61.3	90.2			
63	88.6	62.4	87.8	93.6	65.8	92.5
80	81.2	58.7	80.7			
100	77.1	58.0	76.8			
125	74.3	58.2	74.1	79.4	62.2	79.1
160	69.0	55.6	68.9			
200	64.2	53.3	64.2			
250	63.0	54.4	63.0	68.1	59.5	68.1
315	62.6	56.0	62.6			
400	63.6	58.8	. 63.6			
500	64.5	61.3	64.5	68.2	64.9	68.2
630	61.8	59.9	61.8			
800	60.7	59,9	60.7		<u>[</u>	
1000	ь0.1	60.1	60.1	64.8	64.7	64.3
1250	53.2	59.8	59.2			
1600	57.3	58.3	57.2			
2000	55.9	57.1	55.7	61.3	62.4	61.1
2500	56.1	57.5	55.8			
3150	55.6	56.9	55.1			
4000	54.9	55.9	54.1	59.6	60.6	58.8
5000	53.8	54.3	52.5			
6300	53.6	53.5	51.6			
8000	51.1	50.0	48.1	57.0	56.1	54.2
10000	51.7	49.2	47.3			

OUERALL LEVELS (12.5 - 10000 Hz)

0852L = 100.4 dB

OASLA = 72.2 dB(A)

UHSLC = 96.9 dB(C)

C-A UALUE = +24.8

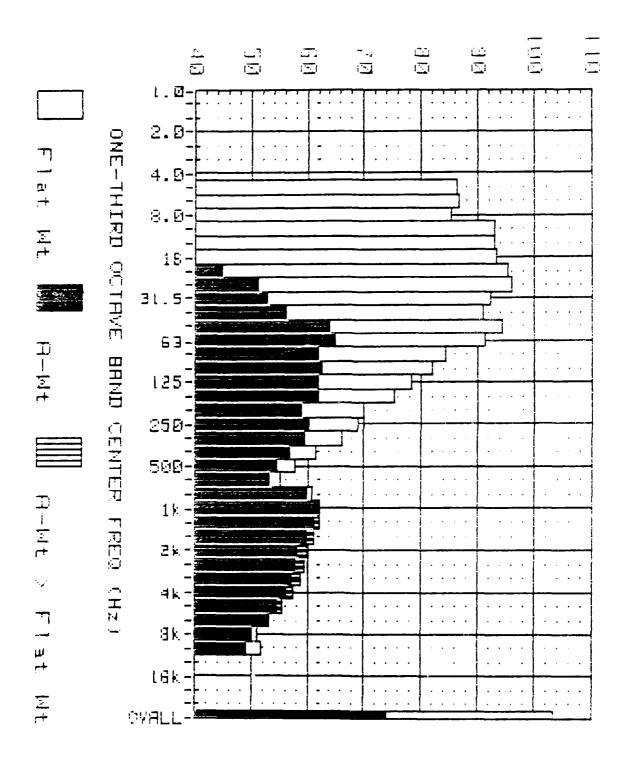


Figure 4: Measured Noise Spectrum (SPL us H-Wt Levels). Location: 82F32T-9 NSS. Ellsworth AFB SD. Station: 3 Hingle: 30 Degrees; Distance: 190 Meters Library El.St. Power: Attenburger: Temp: 44 Degrees

LOCATION: H.1521-9 MoS. Elipworth MRE SU.

Station: 3 Angle: 30 Degrees: Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL CdB <c>1</c>	OCTAVE SPL (dB)	A-UT OCTAVE BAND SL EdB(A)]	C-M1 OCTAVE BAND SL C-M1
5	86.3	0.0	0.0			
6.3	86,6	0.0	0.0			
8	85.2	0.0	0.0	94.5	22.7	78.8
10	93.1	22.7	78.8			
12.5	93.0	29.6	81.8			
16	93.3	36.6	84.8	98.7	45.4	91.0
20	95.2	44.7	89.0			
25	95.9	51.2	91.5			
31.5	92.2	52.8	89.2	98.3	58.7	94.8
40	90.3	56.2	88.8			
50	94.2	64.0	92.9			
63	91.1	64.9	90.3	96.2	68.5	95.1
80	84.3	61.8	83.8			
100	81.8	62.7	81.5			
125	78.1	62.0	77.9	84.0	67.0	83.7
160	75.2	61.8	75.1			
200	69.9	59.0	69.9			
250	68.9	60.3	68.9	73.4	64.4	73.4
315	66.2	59.6	66.2			
400	51.5	<u>55.8</u>	61.6			
500	57.7	54.5	57.7	63.7	59.9	63.7
630	55.2	53.3	55.2			
800	60.3	60.0	60.8			
1000	52.1	62.1	62.1	56.3	66.3	66.3
1250	61.5	62.1	61.5			
1600	50.3	61.3	60.2			
2000	58.5	59.7	58.3	63.9	65.0	63.7
2500	58.3	59.ŝ	58.0			
3150	57.6	58.8	57.1			
4000	56.6	57.6	55.8	61.2	62.2	60.5
5000	54.8	55.3	53.5			
6300	53.0	52.9	51.0			
8000	51.1	50.0	48.1	56.8	55.8	53.9
10000	51.7	49.2	47.3			

GHSPL 103.4 dB

ùASLA = 74.2 dB(A)

GBSLC : 99.0 dBCC)

C-A UALUE ≈ +24.8

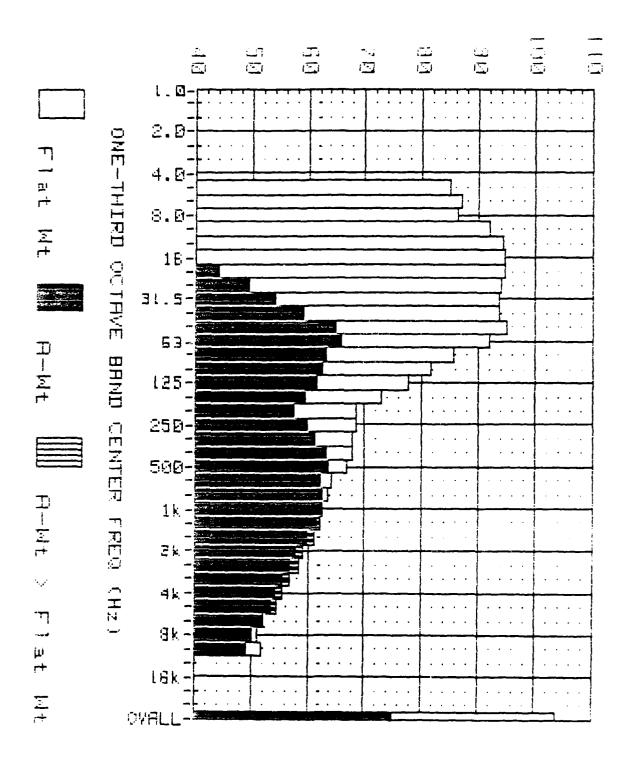


Figure 5: Measured Noise Spectrum (SPt os A-Ut Leveis). Location: Hzf32I-9 NSS. Ellsworth AFB SD. Station: 4 dngle: 48 Degrees: Distance: 100 Meters Enume: (10): Power: Arterburner: Lamp: 44 Degrees (

1.3811 5: Measured Moise Spectrum Levels.

Location: H.F32(-9 MSS. Ellsworth HF8 SD. Station: 4 Angle: 40 Degrees: Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-MI SOUND LEVEL CdB(A)]	C-M1 SOUND LEVEL Cd8 <c>1</c>	OCTAVE BAND SPL (dB)	A-UT OCTAUE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)]
5	84.9	0.0	0.0			
6.3	87.0	0.0	0.0			
8	86.2	0.0	0.0	94.0	21.6	77.7
10	92.0	21.6	77.7			
12.5	94.2	30.8	83.0			
16	94.8	38.1	86.3	99.3	45.3	91.2
20	94.7	44.2	88.5			
25	94.1	49.4	89.7			
31.5	93.5	54.1	90.5	98.5	60.6	35.5
40	93.7	59.1	91.7			
50	95.0	64.8	93.7			
63	92.1	65.9	91.3	97.1	69.5	96.0
80	85.6	63.0	85.1			
100	81.6	62.5	81.3			
125	77.5	61.4	77.3	83.4	66.1	83.2
160	72.9	59.5	72.8			
200	68.5	57.6	68.5			
250	58.5	59.9	68.5	73.1	54.6	73.1
315	67.9	61.3	67.9			
460	67.9	63.1	67.9			
son	66.8	63.6	66.8	71.3	67.8	71.3
<u>630</u>	64.2	62.3	64.2	L		
800	63.4	52.6	63.4			<u> </u>
1000	62.4	62.4	62.4	67.3	67.2	57.3
1250	61.7	62.3	61.7			
1600	60.0	61.0	59.9			
2000	58.0	59.2	57.8	63.3	64.5	63.1
2500	57.2	58.5	56.9	·		
3150	55.6	56.9	55.1			
4000	54.4	55.4	53.6	59.5	60.4	58.7
5000	53.8	54.3	52.5			<u> </u>
6300	52.2	52.1	50.2			
8000	51.1	50.0	48.1	56.4	55.4	53.5
10000	51.7	49.2	47.3			

0UERALL LEUELS (5 ~ 10000 Hz)

085LA = 75.1 dB(A)
085LA = 75.1 dB(A)
085LC = 99.6 dB(C)

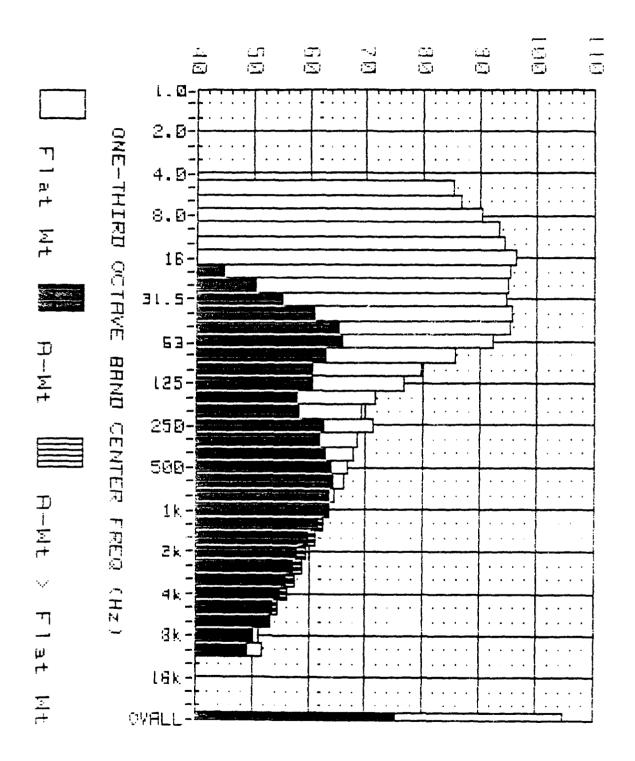


Figure 6: Measured Moise Spectrum (SPL us A-Wt Levels). Location: 8/F32I-9 MSS. Ellsworth AFB SD. Chation: 5 Angle: 50 Degrees: Distance: 100 Meters Logine: (161: Power: Atterburner: Temp: 44 Degrees f

TIBLE 5: Measured Moile Openham Lauera.
Location: ACESSI-9 ASS. Elisworth AES SD.
Station: 5 Angle: 50 Degrees: Distance: 100 Meters

Station: 5 Angle: 50 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	C-M1 SONNO C-M1	OCTAVE	A-UT OCTAVE BAND SL CdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	85.1	0.0	0.9			
6.3	86.5	0.0	0.0			
8	90.4	0.0	0.0	95.6	22.9	79.0
10	93.3	22.9	79.0			
12.5	94.2	30.8	83.0			
16	96.2	39.5	87.7	100.0	46.0	92.0
20	95, 3	44.8	89.1			
25	95.1	50.4	90.7			
31.5	94.5	55.1	91.5	99.8	62.2	96.8
40	95.5	60.9	93.5			
50	95.4	65.2	94.1			
63	92,2	66.0	91.4	97.4	69.7	96.3
80	85.5	63.0	85.0	-		
100	79.6	60.5	79.3			
125	76.7	60.6	76.5	81.8	64.6	81.6_
160	71.4	58.0	71.3			
200	69,2	58.3	69.2			
250	71.1	62.5	71.1	74.5	66.1	74.5
315	68.6	62.0	68.6			
400	67.8	63.0	67.8			
500	67.0	63.8	67.0	71.8	68.4	71.8
630	66.0	54.1	66.0			
900	64.5	63.7	64.5			
1000	63,4	63.4	63.4	68.2	68.0	68.2
1250	61.9	62.5	61.9			
1600	60.0	61.0	59.9			
2000	58.2	59.4	58.0	63.5	64.6	63.3
2500	57.6	58.8	57.3			
3150	56.3	57.5	55.7			
4000	55.3	56.3	54.5	60.0	61.0	59.2
5000	53.8	54.3	52.5			
6300	53.0	52.9	51.0			
8000	51.1	50.0	48.1	56.8	55.8	53.9
10000	51.7	49.2	47.3			

0UERALL LEUELS (5 - 10000 Hz)

BASPE = 104.7 dB BASEC = 190.4 dB(C) OASLA = 75.5 dB(A) C-A UALUE = +24.9

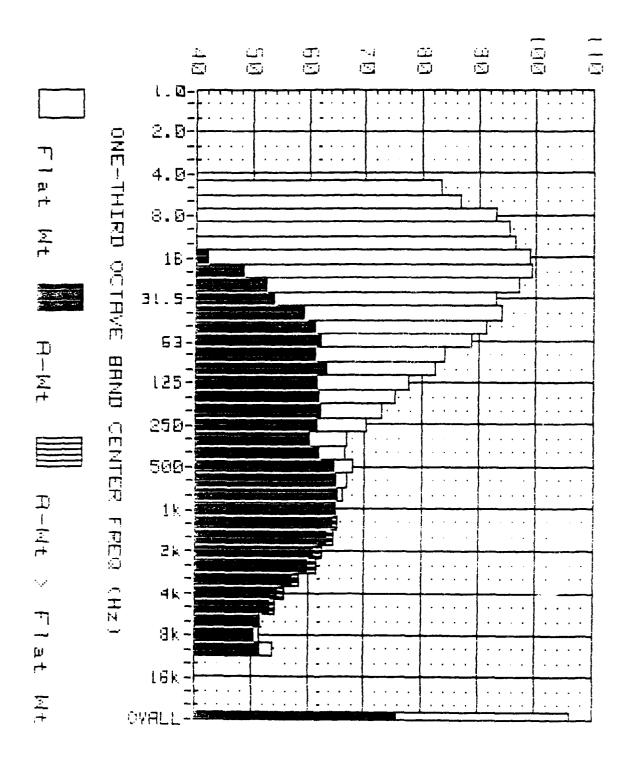


Figure 7: Measured Noise Spectrum (SPL vs R-Wt Levels). Location: A2F32I-9 NSS, Ellaworth HFB SD. Station: 13 Hngle: 12D Degreest Distance: 18D Meters Engine: Fidt: Power: Biterburner: Temp: 44 Degrees !

FABLE 7: Measured Hoise Spectrum Levels. Location: AFF32T-9 NSS. Ellsworth AFB SD.

Station: 13 Angle: 120 Degrees: Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL CdB(A)]	C9B(C)] FENET SONNO C-M1	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL CdB(A)]	C-UT OCTAVE BAND SL CdB(C)]
5	83.4	0.0	0.0			
6.3	86.6	0.0	0.0			
8	93.0	0.0	0.0	97.6	24.8	80.9
10	95.2	24.7	80.9			
12.5	96.4	33.0	85.2			
16	98.8	42.1	90.3	103.1	49.6	95.3
20	99.2	48.7	92.9			
25	97.1	52.3	92.6			
31.5	93.1	53.7	90.1	99.8	61.0	96.4
40	93.9	59.3	91.9			
50	91.4	61.2	90.1			
63	88.5	62.3	87.8	93.7	66.4	92.6
80	83.8	61.3	83.3			
100	82.4	63.3	82.1			
125	77.6	61.5	77.4	84.2	67.0	84.0
160	75.1	61.7	75.0			
200	73.0	62.1	73.0			
250	70.2	61.6	70.2	75.5	66.1	75.5
315	56.8	60.2	66.8			
400	6ธ.5	61.7	66.5			
500	67.9	64.7	67.9	71.9	68.7	71.9
630	56.7	64.8	66.7			
800	66.0	65.2	66.0			
1000	65.0	55.0	65.0	70.0	69.9	70.0
1250	64.4	65.0	64.4			
1600	63.5	64.5	63.4			
2000	61.2	62. 4	61.0	66.6	67.8	66.5
2500	60.3	61.6	60.0			
3150	57.4	58.6	56.9			
4000	54.6	55.6	53.8	60.3	61.3	59.5
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
ឧ០០០	51.5	50.4	48.5	57.2	55.9	54.0
10000	53.8	51.3	49.4			

00ERALL LEUELS (5 = 10000 Hz)

0ASPL = 105.8 dB 0ASLC = 100.0 dB(C)

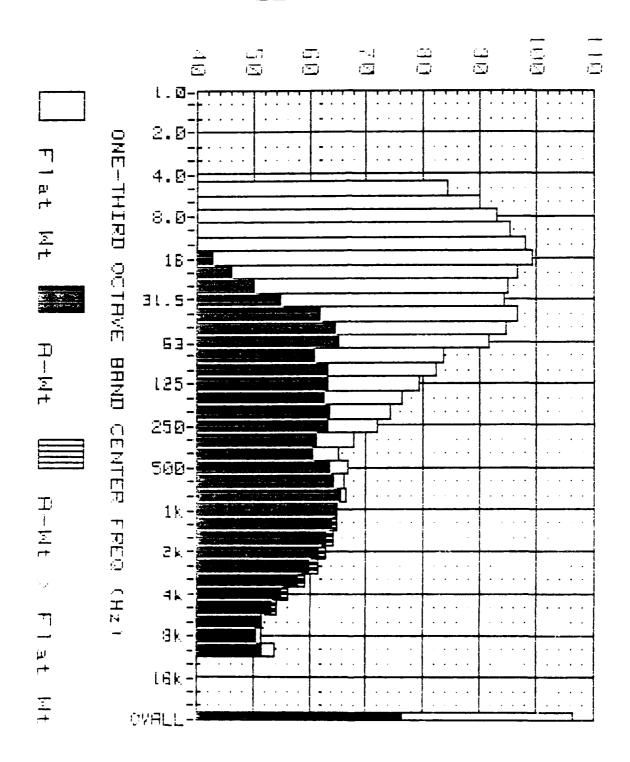


figure 8= Measured Noise Spectrum (SPt os H-Wt Levels). Location: 6/F32T-9 NSS. Elloworth 868 SD. Oration: 13 Angle: 138 Degrees: Bistance: 188 Meters Engine: (cdi: Power: Afterburner: Lemn. 33 Degrees:

INSLE St Measured House Spentrum Levels. Location: A/F32I-9 MSS. Ellaworth AFB SD.

Station: 14 Angle: 130 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

F REQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(U)]	C-UT SOUND LEVEL CdB(C)]	OCTAUE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)]
5	84.1	0.0	0.0			
6.3	89.8	0.0	0.0			
8	93.1	0.0	0.0	98.0	24.9	81.0
10	95.3	24.8	80.9			
12.5	97.8	34.4	86.6			
16	99.5	42.7	91.0	102.9	48.0	94.5
20	96.7	46.2	90.5			
25	94.9	50.2	30.5			
31.5	94.3	54.9	91.3	100.1	63.0	27.3
40	96.6	62.0	94.6			
50	94.6	64.4	93.3			
63	91.5	65.3	90.7	96.6	68.7	95.5
80	83.4	60.9	82.9			
100	82.2	63.1	81.9		<u> </u>	
125	79.1	63.0	78.9	84.6	67.7	84.4
160	76.1	62.7	76.0			
200	74.3	63.4	74.3			
250	71.8	63.1	71.8	76.8	67.5	76.9
315	67.9	61.2	67.8			
400	65.3	60.5	65.3			
500	66.9	63.7	66,9	70.9	67.8	70.9
630	66.0	54.1	66.0			
800	66.3	65.5	66.3			
1000	65.0	65.0	65.0	70.0	69.9	70.0
1250	64.2	64.7	64.2			
1600	63.3	64.2	63.1			
2000	61.7	62.9	61.5	66.7	67.8	66.5
2500	60.3	61.6	60.0			
3150	58.1	59.3	57.6			
4000	55.1	56.1	54.3	60.8	61.8	60.0
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
8000 10000	51.5 53.8	50.4 51.3	48.5 49.4	57.2	55.9	54.0

GUERALL LEVELS (S - 10000 Hz)

OASPL = 106.2 4B

OASEA = 76.5 dB(H) C-A URLUE = +24.3

UASLC = 100.8 dB(C)

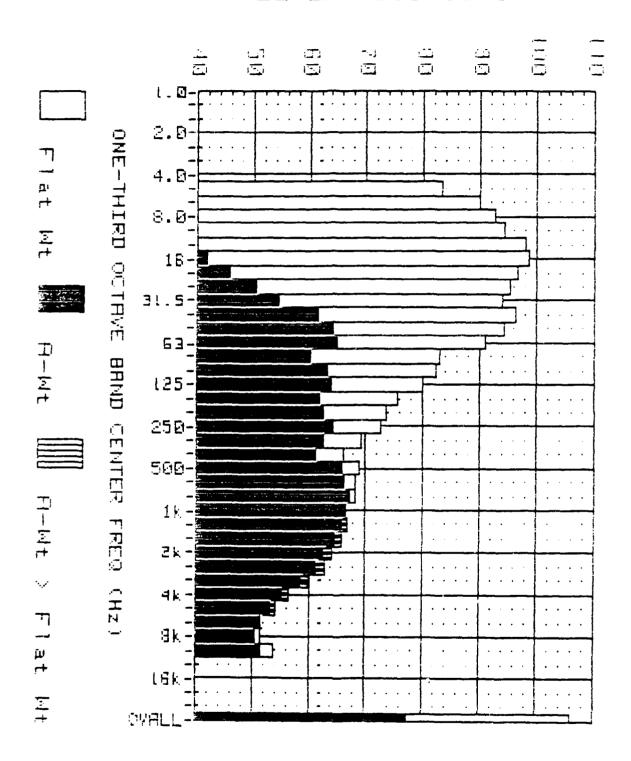


figure 9: Measured Noise Spectrum (SPL vs A-Wt Levels). Location: Hzf32I-9 MSS. Ellsworth AfB SD. Station: In Engle: 140 Degrees: Distance: 100 Meters Loginal: (Edl: Space: Attenburner: Temp: 44 Degrees (

TABLE 9: Measured Moice Spectrum Levels. Location: AxF32T-9 NSS. Ellsworth AFB SD.

Station: i5 Angle: 140 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-MT SOUND LEVEL C-MT	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT OCTAUE BAND SL CdB(C)]
5	83.2	0.0	0.0			
6.3	89.9	0.0	0.0			
8	92.7	0.0	0.0	97.4	23.9	80.0
10	94.3	23.8	80.0			
12.5	98.1	34.7	86.9			
16	98.7	42.0	90.2	102.6	47.6	94.1
20	96.5	46.0	90.2			
25	95.3	50.5	90.8			
31.5	93.8	54.4	90.8	100.0	62.6	97.0
40	96.2	61.6	94.2			
50	94.3	64.1	93.0	_		
63	91.0	64.8	90.2	96.2	68.3	95.1
80	82.9	60.3	82.4			
100	82.3	63.2	82.0			
125	80.0	63.9	79.7	84.8	67.9	84.6
160	75.4	62.0	75.3			
200	73.5	62.6	73.5			
250	72.7	64.1	72.7	76.9	67.9	76.9
315	69.3	62.7	69.3			
400	66.1	61.3	66.1			
500	69.0	65.8	69.0	72.7	69.7	72.7
630	68.1	66.2	68.1			
800	68.1	67.3	68.1			
1000	66.5	66.5	66.5	71.8	71.7	71.8
1250	66.2	66.7	66.2			
1600	64.7	65.7	64.6			
2000	62.9	64.1	62.7	68.0	69.2	67.9
2500	61.6	62.9	61.3			
3150	58.7	59.9	58.2			
4000	55.5	56.6	54.7	61.3	62.3	60.5
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
8000	51.5	50.4	48.5	57.2	55.9	54.0
10000	53.8	51.3	49.4			

****OUERALL LEVELS (5 - 10000 Hz)***

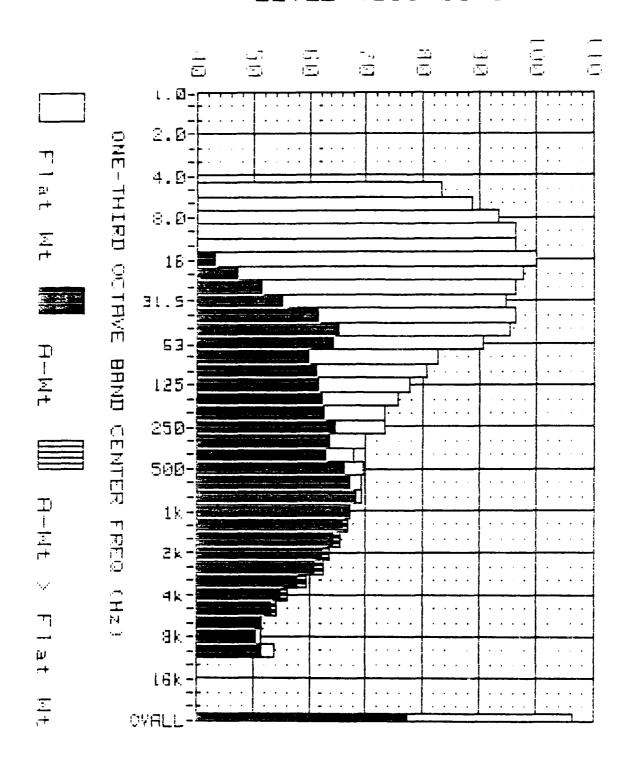


Figure 19: Measured Noise Spectrum (SPL us A-Wt Levels). Location: 8/F32T-9 NSS. Ellsworth HFB SD. Station: 15 Angle: 150 Degrees: Bistance: 100 Meters Lagrant Figure Power: Ofterburner: Temp: 44 Degrees t

INMLE 10: dissured morse Spectrum Laveis. Escation: HUTSCI-9 MSS. dllsworth AFB SD.

Station: 15 Angle: 150 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

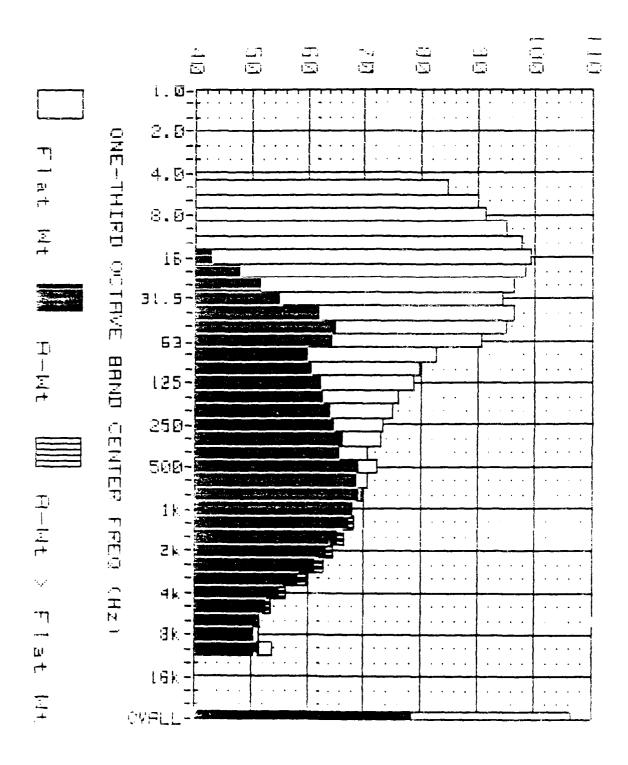
FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(R)]	C-UT SOUND LEVEL C-UT	OCTAVE BANO SPL (dB)	A-WI OCTAVE BANO SL CdB(A)]	CGB(C)] BUND ST C-MI
5	83.4	0.0	0.0			
6.3	88.5	0.0	0.0			
8	93.4	0.0	0.0	98.5	25.9	82.0
10	96.3	25.8	82.0			
12.5	96.2	32.8	85.0			
16	100.0	43.2	91.5	103.0	48.7	94.9
20	97.7	47.2	91.5			
25	96.3	51.5	91.8			
31.5	94.6	55.2	91.6	100.5	62.8	97.5
40	96.2	61.6	94.2			
50	95.4	65.2	94.1			
63	90.5	64.3	89.7	96.8	68.5	95.6
80	82.4	59.9	81.9			
100	80.4	61.3	80.1			
125	77.5	61.4	77.3	83.1	66.5	82.9
160	75.7	62.3	75.6			
200	73.3	62.4	73.3			
250	73.2	64.6	73.2	77.2	68.3	_77.2
315	70.0	63.4	70.0			
400	67.3	63.0	67.8			
500	69.5	66.3	69.5	73.6	70.6	73.6
630	69.1	67.1	69.1			
800	69.1	68.3	69.1			
1000	67.1	67.1	67.1	72.4	72.2	72.4
1250	66.2	66.7	66.2			
1600	64.5	65.5	64.5			
2000	62.4	63.6	62.2	67.7	68.8	67.5
2500	61.1	62.4	60.8			
3150	58.2	59.4	57.7			
4000	55.1	56.1	54.3	60.9	61.9	60.2
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
8000	51.5	5n.4	48.5	57.2	55.9	54.0
10000	53.8	51.3	49.4			

08SPL = 106.4 dB

DASLA = 77.6 dB(A)

UASLC = 101.1 AB(C)

C-R URLUE = +23.5



inque II: Measured Noise Spectrum (SPL us H-Wt Levels).
tocation: 0.632109 NGS. Ellisworth AFB SB.
totac: 0.0004000 low Degrees: 0.stance: 108 Meters
equals: 1.0040000 lower: Ottochurner: [emp: 44 Degrees]

.MBLE 11: Measured Boise Spectrum Leonis. Location: 021821-9 MSS. Elisworth AFB SD.

Station: 17 Hngle: 160 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	CGB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)3	C-WT OCTAVE BAND SL EdB(C)3
5	94.7	9.0	0,0			
6.3	89.9	0.0	0.0			·
8	91.3	0.0	0.0	97.4	24.6	80.7
10	95.0	24.6	80.7			
12.5	97.6	34.2	86.4			
16	99.3	42.6	90.8	103.3	49.2	95.2
20	98.5	48.0	92.3		L	
25	96.2	51.5	91.8			
31.5	94.3	54.8	91.2	100.5	62.9	97.5
40	96.4	61.8	94.4			
50	95.1	64.9	93.8			
63	90.4	64.2	89.6	96.6	68.3	95.4
80	82,5	60.0	82.0			
100	79.6	60.5	79.3			
125	78.4	62.3	78.2	83.0	66.6	82.8
160	75.9	62.5	75.8		L	
200	74.9	64.0	74.9			
250	73.2	64.6	73.2	78.5	69.9	78.5
315	72.9	66.3	72.9			
400	70.4	65.6	70.4			
500	72.1	68.9	72.1	75.8	72.7	75.3
630	70.5	68.6	70.5			
800	69.6	68.9	69.6			
1000	67.8	67.8	67.8	73.2	73.1	73.2
1250	67.7	68.2	67.7			
1600	65.5	66.5	65.5			
2000	63.4	64.6	63.2	68.6	69.7	<u> 58.4</u>
2500	61.6	62.9	61.3			
3150	58.7	59.9	58,2			
4000	55,1	56.1	54.3	61.0	62.0	60.3
5000	53.0	53.5	51.7			
6300	51.5	51.4	49.5			_
8000	51.5	50.4	48.5	57.2	55.9	54.0
10000	53.8	51.3	49.4			

9HSPL = 106.4 dB

OASLA = 78.7 dB(A)

9HSLC = 101.1 dB(C)

C-A VALUE = +22.4

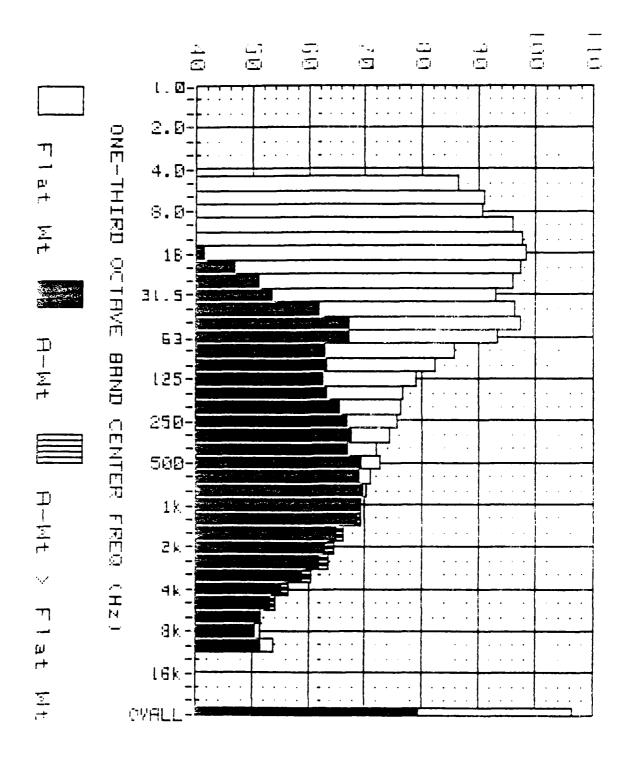


figure 12: Measured Noise Spectrum (SPL os A-Ut Levels). Location: A/F32T-9 MSS. Elisworth AfB SD. Fation: 18 Higle: 170 Degrees: Distance: 100 Meters Coupne: 1:81t Dower: Afterburner: Tomp: 44 Degrees:

HBM1 F2: Measured House spectrum Lauels. Location: H.7327-9 NSS. Ellowerth HFB SB.

Station: 18 Angle: 170 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL CdB(C)3	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	86.1	0.0	0.0			
6.3	90.9	0.0	0.0			
8	90.6	0.0	0.0	97.9	25.4	81.5
10	95.8	25.4	81.5			
12.5	97,7	34.3	86.5			
16	98.3	41.5	89.7	102.6	48.2	94.4
20	97.5	47.0	91.3			
25	96.0	51.3	91.6			
31.5	92.9	53.5	89.9	100.1	62.6	97.1
40	96.3	61.7	94.3			
50	97.3	67.1	96.0			
63	93.3	67.1	92.5	99.0	70.9	97.9
80	85.5	63.0	85.0			
100	82,2	63.1	81.9			
125	78.8	62.7	78.6	84.6	67.8	84.4
160	76.7	63.3	76,6			
200	75.3	65.4	76.3			
250	75.4	66.8	75.4	80.2	71.5	80.2
315	74.3	67.7	74.3			
400	71.8	67.0	71.8			
500	72.6	69.4	72.6	76.5	73.3	76.5
630	79.7	58.8	70.7			
300	70.3	69.6	70.3			
1000	59.2	69.2	69.2	74.3	74.1	74.3
1250	68.8	69.4	68.8			
1600	65,2	66.2	65.1			
2000	63.3	64.5	63.1	68.5	69.7	68.4
2500	62.2	63.5	61.9			
3150	59.2	60.4	58.7			
4000	55.5	56.6	54.7	61.5	62.5	60.8
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
8000	51.5	50.1	48.5	57. 2	55.9	54.0
10000	53.8	51.3	49.4			

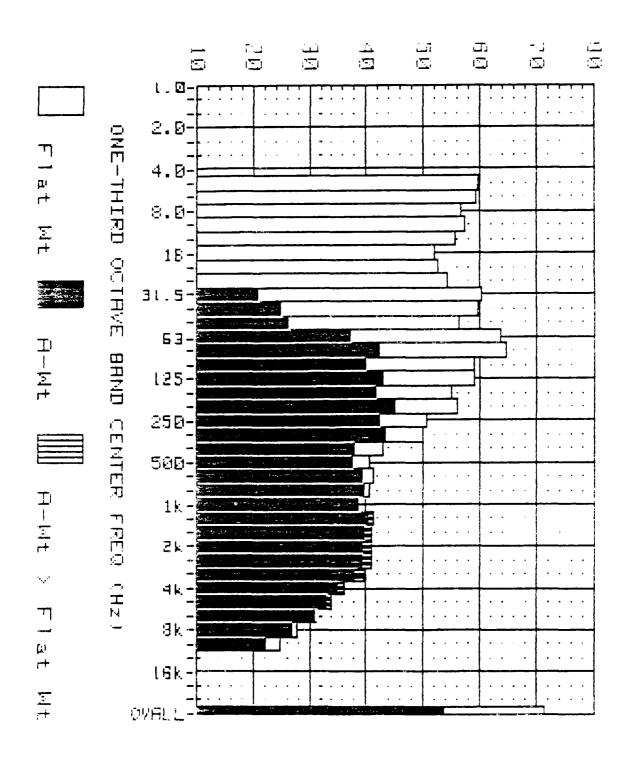


Figure 13: Measured Noise Spectrum (SPL vs H-Wt Levels). Location: AZF32F-9 MSS. Ellsworth AFB SD. Matters Office: Degrees; Distance: 100 Meters Office: Libbs Power: Background; Temp: 44 Degrees F

기계원도의 15호 - Measured House Spectrum Level .

topation: HyF32I-4 M53. Ellsworth HFB 50. Station: O Angle: O Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 44 Degrees F

Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)3	C-WT OCTAVE BAND SL EdB(C)]
5	59.6	0.0	0.0			
6.3	59,2	0.0	0.0			
8	56.7	0.0	0.0	62.6	4.8	43.0
10	57.3	0.0	43.0			
12.5	55.5	0.0	44.3			
16	52.0	0.0	43.5	58.4	5.6	49.7
20	52.6	2.1	46.4			
25	54.3	9.6	49.9			
31.5	60.3	20.9	57.3	63.5	26.4	60.8
40	59.4	24.8	57.5			
50	56.3	26.1	54.9			
63	63.6	37.4	62.8	67.5	43.5	66.8
80	64.7	42.2	64.2			
100	58.9	39.8	58.6			
125	58,9	42.8	58.7	62.7	46.3	62.5
160	55.0	41.6	54.9		<u> </u>	
200	55.8	44.9	55.8			
250	50.7	42.1	50.7	57.7	48.3	57.7
315	49.8	43.2	49.8		<u> </u>	
400	42.8	38.0	42.8			
500	40.6	37.4	40.6	46.4	43.1	46.4
630	41.1	39.3	41.1			L
800	40.4	39.6	40.4			
1000	38.6	38.6	38.6	44.7	44.7	44.7
1250	40.6	41.2	40.6		<u> </u>	
1600	39.8	40.8	39.7		<u> </u>	<u> </u>
2000	39.5	40.7	39.3	44.4	45.6	44.2
2500	39.6	40.9	39.3			
3150	38.2	39.4	37.7			
4000	35.3	36.3	34.5	40.8	41.9	40.1
5000	33.3	33.8	32.0			
6300	30.8	30.7	28.8			
8000	27.8	26.7	24.8	33.3	32.6	30.7
10000	24.8	22.3	20.4			

0ASPL = 71.4 dB 0ASLC = 69.3 dB(C) 0ASLA = 53.7 dB(A) C-A VALUE = +15.6

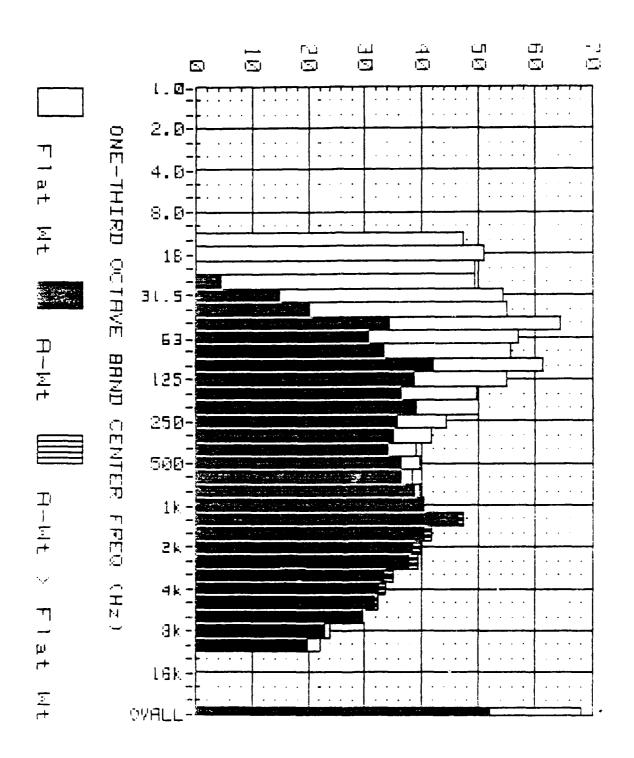


Figure 14: Measured Noise Spectrum (SPL us A-Wt Levels).
Location: 0.5321-9 MSS. Elisworth BFB SD.
Striton: 1 dogle: 10 Degrees: Oistance: 100 Meters
Engine: F101: Power: Background: Temp: 44 Degrees F

TABLE 14: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 1 Angle: 10 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL EdB(C)3	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	CGB(C)1 BUND SF CLUNE C-MI
12.5	47.3	0.0	36.1			
16	51.0	0.0	42.5	54.2	4.8	46.2
20	49.1	0.0	42.9			
25	49.3	4.6	44.9			
31.5	54.3	14.9	51.3	58.2	21.5	55.6
40	54.9	20.3	52.9			
50	64.3	34.1	63.0			
63	6.8	30.6	56.0	65.5	37.7	64.4
80	55.7	33.3	55.2			
100	61.2	42.1	60.9			
125	54.8	38.7	54.6	62.3	44.4	62.1
160	49.5	36.1	49.4			
200	49.8	38.9	49.8			
250	44.1	35.5	44.1	51.3	41.6	51.3
315	41.6	35.0	41.6			
400	38.8	34.D	38.8			
500	39.6	36.4	39.6	43.6	40.4	43.5
630	38.1	36.2	38.1			
800	39.4	38.6	39.4			
1000	40.2	40.2	40.2	48.2	48.5	_48.2
1250	46.7	47.3	46.7			
1600	40.5	41.5	40.4			
2000	38.5	39.7	38.3	43.9	45.0	43.7
2500	38.0	39.3	37.7			
3150	33.6	34.8	33.1			
4000	32.7	33.7	31.9	37.5	38.5	36.7
5000	31.9	32.4	30.6			
6300	29.6	29.5	27.6			
8000	23.8	22.7	20.8	31.2	30.7	28.8
10000	22.3	19.8	17.9			

OUERALL LEUELS (12.5 - 10000 Hz)

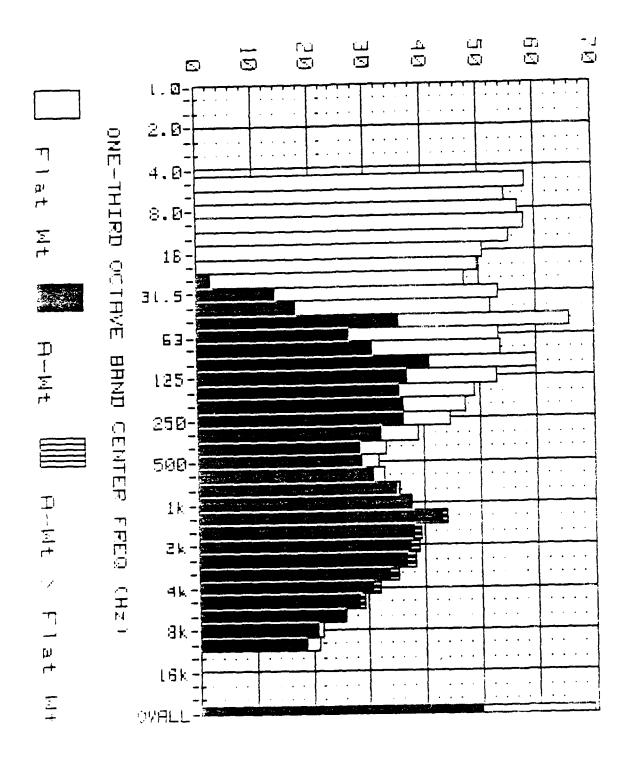


Figure 15: Measured Noise Spectrum (SPL us H-Wt Levels). Location: Buf321-9 MSS. Ellsworth HFB SD. Figure 2: Ungle: 20 Degrees: Distance: 100 Meters Engine: F101: Power: Background: Temp: 44 Degrees F imBLE 15: Measured Moise Spectrum Levels.
Location: H/F32I-9 NSS. Ellsworth AFB SD.
Station: 2 Angle: 20 Degrees; Distance: 100 Meters

Station: 2 Angle: 20 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	C-UT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL CdB(A)]	C-MI OCTAVE BAND SL EdB(C)]
5	58.3	0.0	0.0			
6.3	54.5	0.0	0.0			
8	57.1	0.0	0.0	61.5	4.8	43.5
10	57.8	0.0	43.5			
12.5	55.3	0.0	44.1			
16	50.6	0.0	42.1	57.4	4.8	48.1
20	49.6	0.0	43,4			
25	47.2	2.5	42.8			
31.5	53.4	14.0	50.4	56.4	19.2	53.6
40	52.0	17.4	50.0			
50	65.7	35.5	64.4			
63	53.1	27.0	52.4	66.1	37.2	64.9
80	53.5	31.0	53.0			
100	60.0	40.9	59.7			
125	53.0	36.9	52,8	61.1	43.2	60.8
160	49.0	35.6	48.9			
200	47.1	36.2	47.1			
250	44.7	36.1	44.7	49.5	40.0	49.5
315	38.9	32.3	38.9			
480	33.2	28.4	33.2			
500	32.0	28.8	32.0	37.5	34.4	37.5
630	33.0	31.1	33. O			
800	35.6	34.8	35.6			
1000	37.7	37.7	37.7	44.8	45.2	44.8
1250	43.2	43.8	43.2			
1600	38.4	39.4	38.3			
2000	37.6	38.8	37.4	42.5	43.6	42.3
2500	37.0	38.3	36.7			
3150	33.9	35.1	33.4			
4000	30.9	31.9	30.1	36.4	37.5	35.7
5000	23.6	29.1	27.3			
6300	25.7	25.6	23.7			
8000	21.8	20.7	18.8	28.2	27.5	25.6
10000	21.3	18.8	16.9			

OUERALL LEUELS (5 - 10000 Hz)

OHSPE = 69.3 dB

0ASLA = 50.0 dB(A)

08SLC = 86.8 d8(C)

C-H UHLUE = +16.7

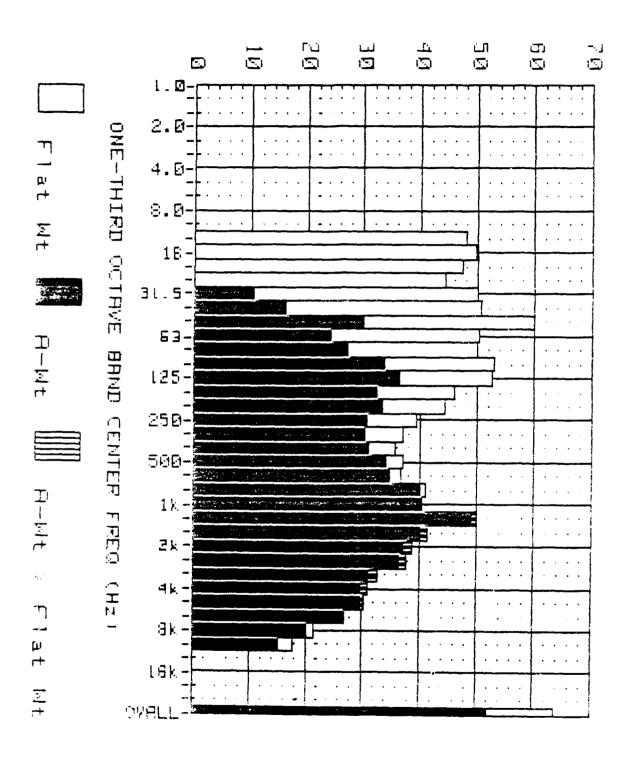
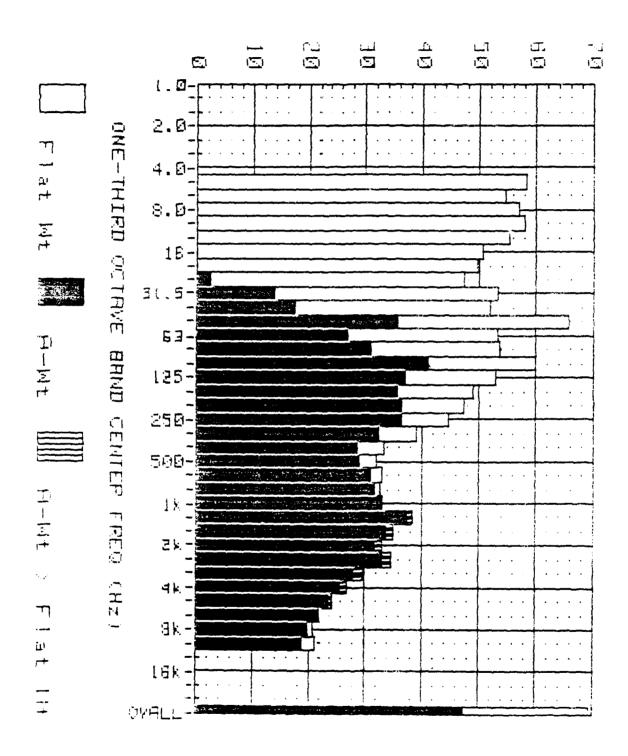


figure 16: Measured Noise Spectrum (SPL us A-Wt Levels). Location: HF321-9 MSS. Ellsworth AFB SB. Plation: 3 Hugle: 30 Degrees: Distance: 100 Meters Engine: F101: Power: Background: Temp: 44 Degrees F TABLE 16: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 3 Angle: 30 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	EGB(C)] FENET SORND E-M1	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
12.5	48.0	0.0	36.8			
16	49.6	0.0	41.1	53.2	4.8	44.9
20	47.3	0.0	41.1			
25	44.4	0.0	40.0			
31.5	50.0	10.6	47.0	53.9	17.3	51.3
40	50.7	16.1	48.7			
50	60.1	29.9	58.8			
63	50.4	24.2	49.6	60.9	32.5	59.7
80	49.8	27.4	49.4			
100	52.8	33,7	52.5			
125	52,5	36.4	52.3	56.1	39.3	55.9
160	45.8	32.4	45.7			
200	44.1	33.2	44.1			
250	39.3	30.7	39.3	45.9	36.4	45.9
315	36.8	30.2	36.8			
490	35.6	30.8	35.6			
500	37.0	33.8	37.0	41.2	38.1	41.2
630	36.5	34.6	36.5			
300	40.8	40.0	40.9			
1000	40.1	40.1	40.1	50.4	50.8	50.4
1250	49.4	50. 0	49,4			
1600	40.1	41.1	40.0			
2000	37.3	38.5	37.1	43.0	44.1	42.9
2500	36.4	37.7	36.1			
3150	31.2	32.4	30.7		<u> </u>	
4000	29.7	30.7	28.9	35.0	36.0	34.2
5000	29.8	30.3	28.5			
6300	26.8	26.7	24.8		<u> </u>	
8000 10000	21.3 17.8	20.2 15.3	18.3	28.3 [,]	27.8	25.9



Engure 17: Measured Moise Spectrum (SPL us A-Wt Levels).

- Cathoric H.E. T. G. Afford to worth HEB (B).

- Louis Follows St. Dr. Bogness of Councer 199 Meters

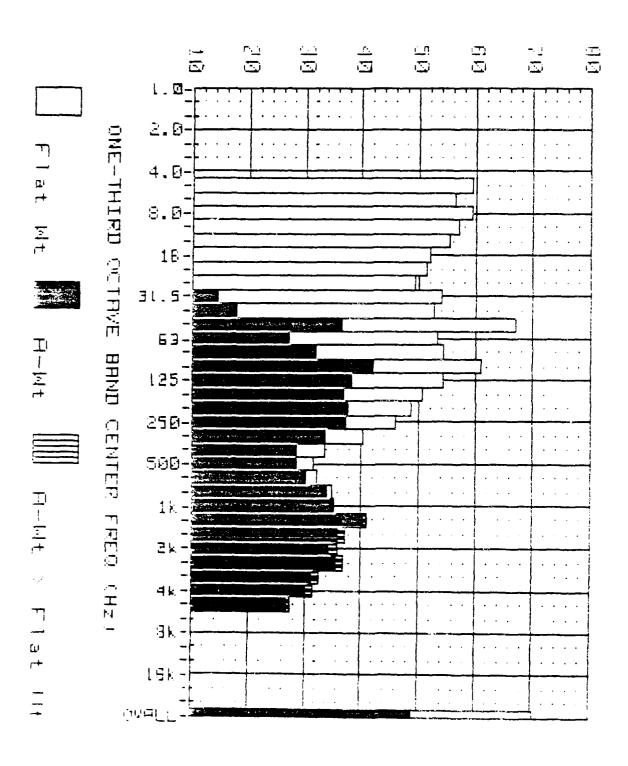
- Engine: fill: Power: Background: Temp: 44 Degrees F

TABLE 17: Measured Moise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 4 Angle: 40 Degrees; Distance: 100 Miters Engine: F101; Power: Background; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (d8)	A-MI SONO FEAR FEAR FEAR FEAR FEAR FEAR FEAR FEAR	C98(C)] FENET C-M1	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	58.3	0.0	0.0			
6.3	54.5	0.0	0.0			
8	57.1	0.0	0.0	61.5	4.8	43.5
10	57.8	0.0	43.5			
12.5	<u>55. 3</u>	0.0	44.1			
16	50.6	0.0	42.1	57.4	4.8	48.1
20	49.6	0.0	43.4			
25	47.2	2.5	42.8			
31.5	53.4	14.0	50.4	56.4	19.2	53.6
40	52.0	17.4	50.0			L
50	65.7	35.5	64.4			
63	53.1	27.0	52.4	66.1	37.2	64.9
80	53.5	31.0	53.0			
100	60.0	40.9	59.7			
125	53.0	36.9	52.8	61.1	43.2	60.3
160	49.0	35.6	48.9			
200	47.1	36.2	47.1	10.5	10.0	
250 315	44.7	36.1	44.7	49.5	40.0	49.5
315 400	38.9 33.2	32.3 28.4	38.9			
500	32.0	20.0	33.2 32.0	37.5	34.4	37.5
630	33.0	31.1	33.0	37.5	37. 1	31.3
300	32.4	31.5	32.4			
1000	32.9	32.9	32.9	39.8	40.1	39.8
1250	37.7	39.3	37.7	97.0	117.	22.0
1600	33.3	34.3	33.6			
2000	31.8	33.0	31.6	37.7	38.9	37.5
2500	33.1	34.4	32.8		37.	
3150	28.2	29.4	27.7			
4000	25,9	26.9	25.1	31.1	32.1	30.4
5000	23.3	21.3	22.5			
6300	21.9	21.8	19.9			
3000	20.8	19.7	17.8	26.1	25.1	23.2
10000	21.5	18.3	15.9			

 $00091. \times -69.3 \text{ dB}$ $000010 = -97.7 \text{ dB} \times 00000$ $000010 \times -66.7 \text{ dB} \times 0.00$ $0.00010 \times -66.7 \text{ dB} \times 0.00$



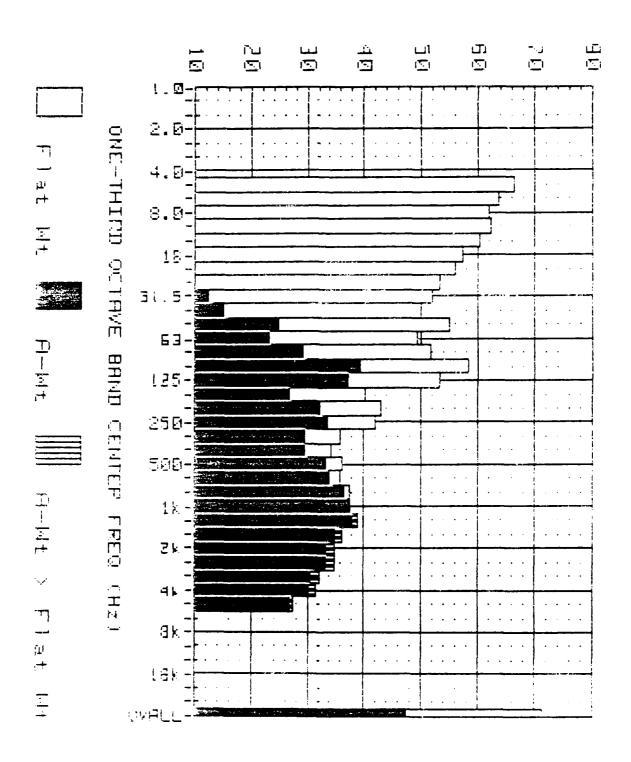
.iqure 18= Measured Noise Spectrum (SPL os A-Ut Levels).
.oration: 825 SPT 9 BSS. Elloworth BEB SD.
.orati

TABLE 18: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 6 Angle: 60 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	H-MI SOUND LEVEL CAB	CQB(C)]	OCTAVE BAND SPL (dB)	A-MI DCTAVE BAND SL EdB(A)]	C-WF BAND SL BAND SL COBECT
5	59.2	0.0	ე. ე			
6.3	56.3	0.0	0.0			
8	59.1	0.0	0.0	62.4	1.8	42.5
10	56.8	0.0	12.5			
12.5	55.1	0.0	43.9			
16	51.8	0.0	43.3	57.9	5.1	49.0
20	51.4	. 9	45.2			
25	49.2	1.5	44.8			
31.5	54.0	14.6	51.0	57.1	19.7	54.3
40	52.5	17.9	50.5			
50	66.9	36.7	65.6			
63	53.3	27.2	52.6	67.3	38.2	ნი, მ
30	54.3	31.9	53.8			
1.01)	60.9	41.3	50.6			
125	54.2	30.1	51.0	62.0	44.2	51.8
160	50.1	37.0	50.3			
200	13.5	37.6	18.5			
250	15.9	37.3	15.9	50.3	11.3	_ 50.0
315	10.3	33.7	10.3			
400	33.1	20.6	33.1			
500	31.6	28.4	31.6	37.2	33.9	37.2
630	32.1	30.2	32.1			
300	34.7	33.9	31.7	10.		
1000	35,2	35.2	35.2	42.4	42.6	12.1
1250	10.1	41.0	10.1			ļI
1600	36.2	37.2	36.1	43.3		<u> </u>
2000	34.5	35.7	31.3	10.3	41.5	10.1
2500 7150	35.7	37.0	35.1			
3150 4200	31.4	32.7	30.9	74.0	75.0	<u> </u>
<u>1006</u> 5800	38.5 27.0	31.5 27.5	29.7 25.7	34.8	35.8	34.1

LEVEL (Bacibals)



inqure 19: Monovaced doise Spectrum (SEL as Hout Level).

Localization: Configuration. Litamorth HEB 50.

Station: Configuration. Degrees: Distance: 100 Meters

Engine: F101: Power: Background: Temp: 44 Degrees F

TABLE 19: Measured Noise Spectrum Levels.

Location: A/F32T-9 NSS. Ellsworth AFB SD. Station: 7 Angle: 70 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	B-ML SORND FEAB(U)	EGB(C)] FENET E-M1 E-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-M1 BUND ST BUND ST C-M1
5	56.3	0.0	0.0			
6.3	63.7	0.0	0.0			
3	62.0	0.0	0.0	67.5	4.3	47.9
10	62.2	ບ. ກ	47.9			
12.5	60.3	0.0	49.1			
16	57.3	. 6	48.3	63.0	7.4	53.9
20	55.7	5.2	49.5			
25	53.2	3.5	48.8			
31.5	51.8	12.4	49.8	<u>56.6</u>	17.6	53.3
40	49.7	15.1	47.7			
50	54.9	24.8	53.7			
63	49.4	23.2	48.6	57.4	31.2	<u>56.4</u>
30	51.7	29.2	51.2			
100	58.3	39.2	53.0			
125	53.4	37.3	53.2	59.5	41.5	59.3
160	40.3	26.9	40.2			
290	43.0	32.1	43.0			
250	12.8	33.4	42.0	46.0	36.7	46.0
315	36.0	29.4	36.0			
400	34.3	29.5	34.3			
500	<u>36.3</u>	33.1	36.3	40.3	37.3	10.3
630	35.9	34.0	35.9			
300	37.4	36.6	37.4			
1000	37.6	37.6	37.6	42.5	42.5	12.5
1250	38.2	33.8	38.2			{
1600	35.2	36.2	35.1	70.0	<u> </u>	70.0
2000	33.5	34.7	33.3	39.0	40.1	38.3
2500 71.50	33.6	34.9	33.3			
3150 1000	30.9	32.2	30.1	74 5	75 5	
5000	30.1 27.0	31.4 27.5	29.6 25.7	34.5	35.5	33.0

DUERHEL LEUELS (5 - 5000 Hz)

:08581 ≈ 71,4 **3**8: 0#SLC = 62.7 dB(C)

08SEA = 47.6 38(A) C A UNEUE = +15.2

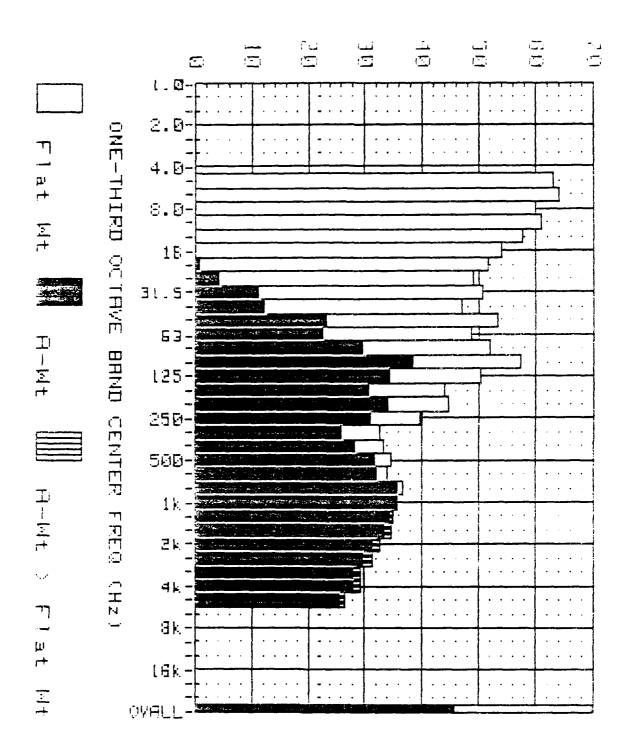


TABLE 20: Measured Noise Spectrum Levels. Location: A/F32I-9 NSS. Ellsworth AFB SD.

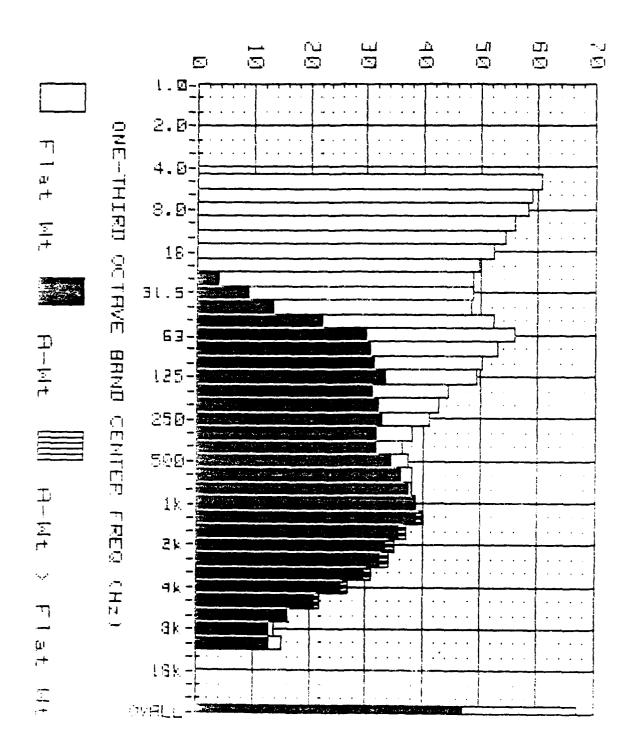
Station: 3 Angle: 80 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (48)	EAB(A)] FEAET SOAND U-ML	CAB(C)]	0CTAUE 8AND SPL (d8)	A-UT OCTAVE BAND SL EdB(A)J	EGB(C)3 BUND SE BUND SE E-MI
5	63.1	0.0	0.0			
6.3	63.9	0.0	0.0			
3	59.8	0.0	0.0	66.7	1.3	45.5
10	50.9	მ. ე_	16.6			
12.5	57.7	0.0	46.5			
16	54.1	0.0	45.6	59.9	5.1	50.6
20	51.5	1.0	45.3			
25	18.9	4.2	44.6			
31.5	50.6	11.2	47.6	53.8	15.1	50.6
40	46.7	12.1	44.7			
50	53.3	23.1	52.0			
63	18.7	22.6	<u> 48.0</u>	56.5	31.0	55.5
30	52.0	29.5	51.5			
100	57.4	33.3	57.1			
125	50.2	34.1	50.0	58.3	10.2	58.0
168	13.3	30.1	43.7			
200	14.7	33.8	44.7			
250	39.4	30.3	39.4	16.0	36.0	16.6
315	32.5	25.9	32.5			
100	33.1	23.3	33, 1			
500	34.6	31.4	34.6	38.7	35.6	39.7
630	33.9	32.0	33.9			
300	36.5	35.7	36.5			
1000	35.7	35.7	35.7	40.4	40.3	10.1
1250	34.4	35.0	34.4			
1600	33.5	34.5	33.4			
2000	31.4	32.6	31.2	36.6	37.8	36.5
2500	29.8	31.1	29.5	·		
3150	23.0	29.2	27.5			
<u>4008</u> 5888	28.3 26.0	20.3 26.5	27.5	32.3	33.3	31.5
2000	20.0	دن.ن	24.7			

BUERNLL LEBELS (5 - 5000 Hz)

 OHSPL = 69.6 dB
 OHSLA = 45.8 dB(R)

 OHSLE = 61.3 dB(R)
 E-A UALUE = +15.5



inqure 21: Monared Noise Spectrum CSPL as Hill Levels . Location: 3,7076 9 900. Eliswooth 860 00. Station: 9 Angle: 90 Degrees: Distance: 100 Meters Engine: F101: Power: Bokground: Temp: 44 Degrees F THBLE 21: Measured Noise Spectrum Levels. Location: A/F32I-9 NSS. Ellsworth AFB SD.

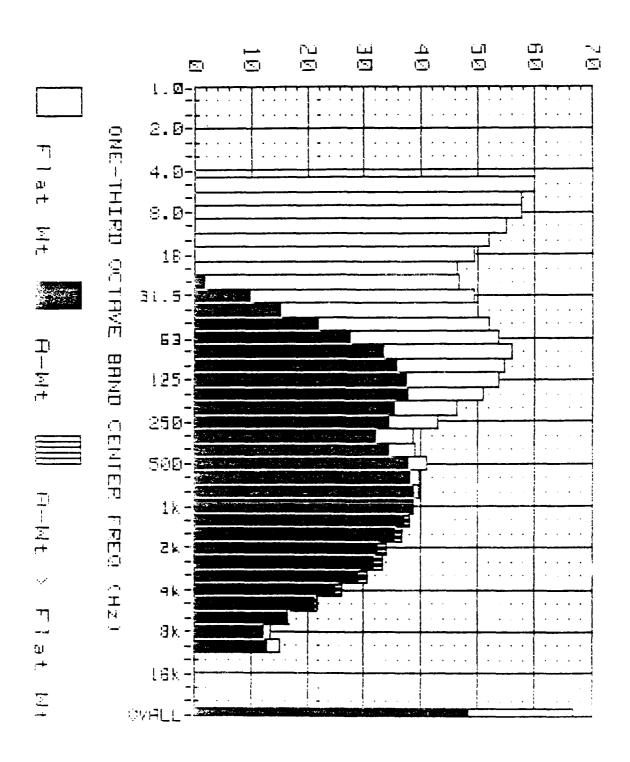
Station: 9 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Bokground; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(B) EDNE FENET B-ML	CAB(C)3 FENET SORND C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT BAND SL BAND SL EdB(C)3
5	60.6	0.0	0.0			_
6.3	59.1	0.0	მ. ი			
3	58.3	0.0	0.0	62.3	1.3	41.8
10	56.1	0.0	41.7			
12.5	54.2	0.0	13.0			
16	52.4	0.0	43.9	57.3	4.3	48,2
20	49.6	0.0	43.4			
25	18.6	3.9	44.2			
31.5	18.5	9.3	45.7	53.2	15.2	50, 2
40	48.1	13.5	46.2			
50	52.4	22.2	51.1			
63	56.0	29.8	55.2	58.9	33.5	58.0
30	53.8	30.5	52.5			
100	50.3	31.1	50.0			
125	49.2	33.1	49.0	53.4	36.6	53,1
160	44.3	30.9	44.2			
200	42.7	31.3	42.7			
250	41.8	32.4	41.0	45.3	36.7	45.3
315	33.0	31.4	33.0			
100	36.2	31.5	36.2			
500	37.3	34.1	37.3	42.8	39.0	42.3
630	37.3	35.9	37.3			
300	37.9	37.1	37.9	47.5		47.0
1000	33.5	38.5	33.5	43.2	43.3	43.2
1250	33, 9	39.5	38.9			
1600 2000	36.0	37.0	35, 9	70.0	40.3	70.0
2500	33.6 32.6	34.8	33.4	39.0	40.2	38,9
3150		33.9	32.3			
1000	29.8 25.9	31.0 25.9	29.3	31.7	72 0	71 0
5000 5000	21.3	23.3	25.1 20.0	31.1.,	32.3	31.9
5300 5300	16.3	16.2	11.3			
3350	11.1)	12.7	11.0	20.0	19.8	17.1
10000	15.2	12.7	10.3	له و د د	1 3 4 19	1 1 2 1

********* 10000 Hz>***

msm. - 55.8 dB Satistic → 50.5 a8(C)

OASLR = 47.2 JB(R) C A UALUE = +13.2



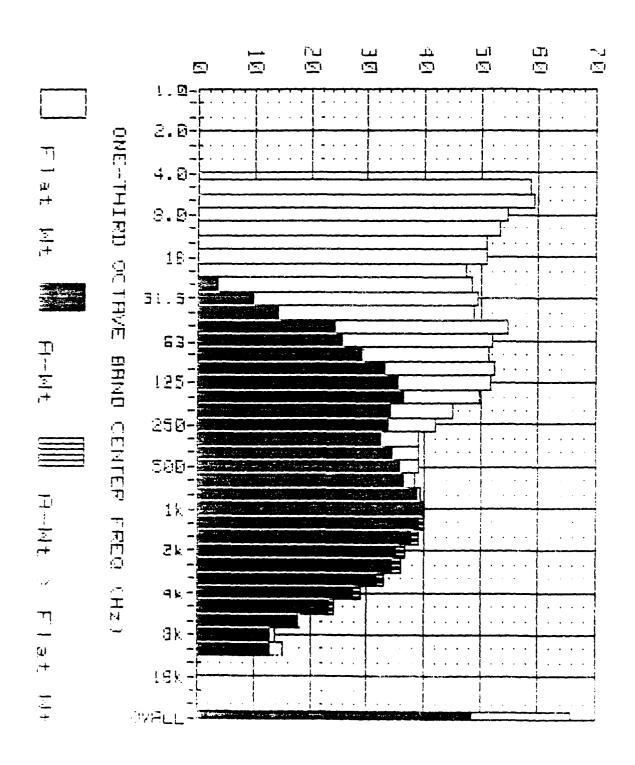
Comme 22: Measured Mouse Spectrum (SPS us H-Wt Lonel) . Section: 100 Agree MSS. Elisworth HED 50. Station: 18 Angle: 90 Degrees: Bistance: 100 Meters Engine: F101: Power: Bokground: Temp: 44 Degrees f

TABLE 22: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 10 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Bokground; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (38)	EGB(U) FENET BONND U-ML	C-UT SOUND LEVEL E38(E>]	0CTAUE 8AND SPL (dB)	A-UT OCTAVE BAND SL EBB(A))	C-M1 C-M1 C-M1 C-M1
5	60.1	0.0	0.0			
6.3	57.6	0.0	0.0			
3	57.5	0.0	0.0	61.6_	1.3	40.3
10	55.1	0.0	40.3			
12.5	52.0	0.0	40.3			
16	19.1	0.0	<u> 10.</u> 6	54.5	4.3	45.2
20	46.1	0.0	33.3			
25	16.8	1.9	42.2			
31.5	49.3	3.9	46.3	53.6	16.5	50.3
10	49.3	15.2	47, 9			
50	52.0	21.3	50.7			
53	53.7	27.5	52, 9	58.3	34.5	58.1
30	55,3	33.3	55.3			
100	54.7	35.6	54.5			
125	53.4	37.3	53.2	58.1	41.7	57.0
160	51.0	37.5	50.9			
200	16.3	35.4	46.3			
250	12.8	31.2	42.8	13.1	38.9	18. 1
315	33.6	32.0	33,6			
160	39.1	31.3	39.1			
580	10.3	37.6	10.3	14.7	11.5	44.7
630	39.7	37.0	39,7			
308	39.4	33.7	39.4			
1898	38.6	38,6	33,6	13.3	13.2	13.3
1250	37.3	37.9	37.3			
1600	35.6	38.6	35.5			
2000	32.7	33.9	32.5	38.5	39.6	38.3
2500	31.0	33.1	31.5			
3150	22.3	30.5	20.3			
1880	25.2	26.2	21.1	31.2	32.3	38.5
5000	21.1	21.9	20.1			
6388	16.5	16.5	11.6			
5666	13.1	10.7	10.1	20.0	19.0	17.1
1:0990	15.2	12.7	10.8			

- x**BUERALL LEUELS (5 - 1888 Hz)***



tiquee 23: Measured Hoise Spectrum (SPL us A-Wt Livels). Nobstron: d. 2021 0 859. Llisworth NEB 12. Station: 11 Angle: 100 Begrees: Distance: 100 Meters Engine: F181: Power: Bokground: Temp: 44 Degrees F IABLE 23: Measured Noise Spectrum Levels. Location: RVF32T-9 NSS. Ellsworth RFB SD.

Station: 11 Angle: 100 Degrees; Distance: 100 Meters Engine: F101; Power: Bokground; Temp: 44 Degrees F

Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	COUND CARCOURE COUND COUND	THE	C-M1 CAB <c>3 C-M1 C-M1</c>	00130E 88ND SPL (48)	8-UT 88ND SL 88ND SL 648(8)]	C-UT BAND SL BAND SL C(3)8B3
5	58.6	0.0	0.0			
6.3	59.2	0.0	3.3			
3	54.5	0.0	9.0	61.2	1.3	39.0
13	53.3	0.0	39.0			
12.5	51.0	0.0	39.3			
16	51.0	0.0	42.5	54.3	1.3	16.0
20	47.1	0.0	40.9			
25	48.1	3.4	43.3			
31.5	19.2	2.3	16.2	53.5	15.3	50.5
10	13.7	11.1	16.3			
50	54.5	24.3	53.2			
63	51.9	25.7	51.1	57.6	31.5	55.6
00	51.4	23,9	50.3		·	
100	52.2	33.1	51.9			
125	51.1	35.3	51.2	56.0	39.8	55.7
160	19.6	35.2	19.5			
200	14.8	33.9	14.3			
250	12.0	33.4	42.0	47.3	38.0	47.3
315	33.9	32,3	33.9			
100	39.8	31.2	39.0			
558	33.3	35.6	33.3	43.5	10.2	13.5
630	38.2	38.3	38.2			
ეგე	39.3	38,5	39.3			
1000	10.0	10.3	10.0	14.3	44.2	14.3
1250	39,2	39.8	39.2			
1600	33.1	39, 1	33.0			
2000	35.3	38,5	35.1	11.0	42.1	10.3
2508	31.6	35.9	34.3			
3150	31.8	33.0	31.3			
1000	20.0	29, 8	27.2	33.7	31.3	33.1
5000	23.6	21.1	22.3	ļ		
6300	17.3	17.7	15.8			
0000 100 0 0	11.0	12.7	10.8	20.7	12.9	10.0

OVERALL LEUELS <5 - 10000 Hz>

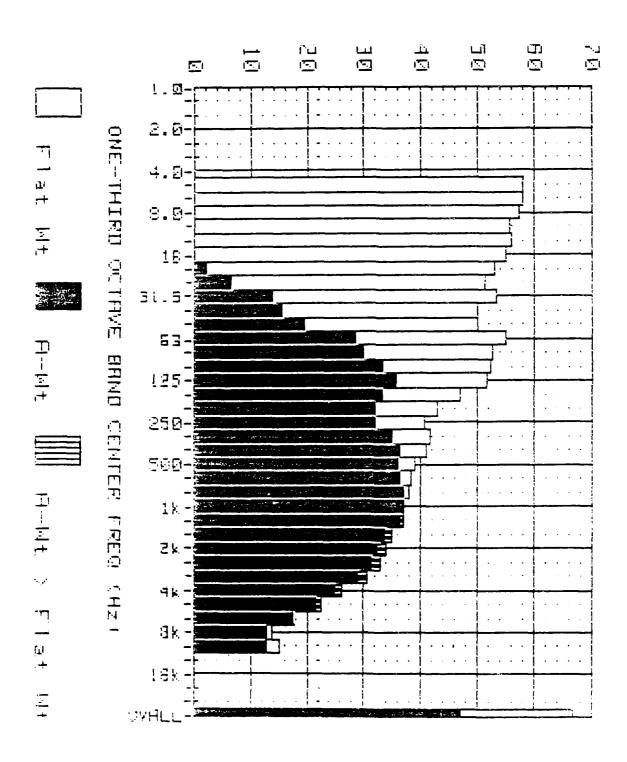


Figure 24: Measured Hoise Opertrom (SPI os A-Wt Levels).
Formation: 52: Matthewarth (ME) 50.
Station: 12 Angle: 110 Degrees: Distance: 100 Meters
Engine: F101: Power: Bokground: Temp: 44 Degrees F

TABLE 24: Measured Noise Spectrum Levels. Location: R/F32T-9 NSS. Ellsworth AFB SD.

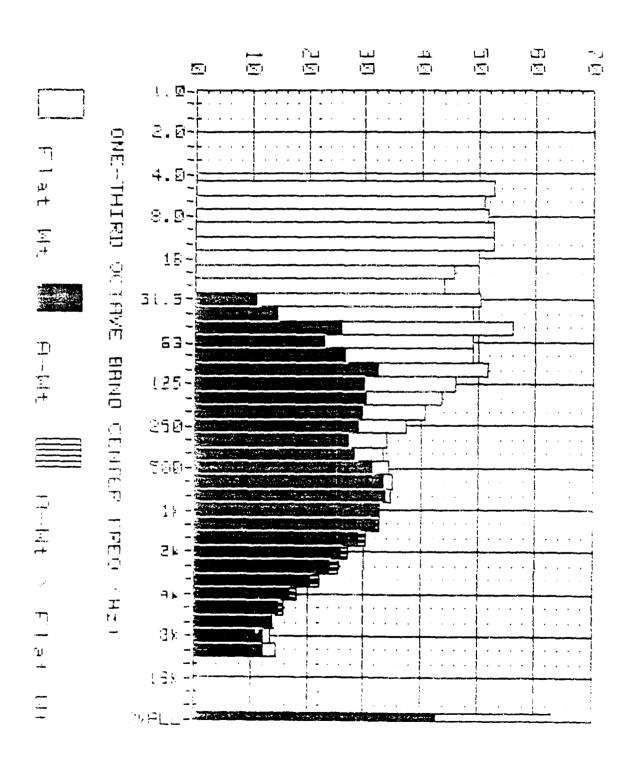
Station: 12 Angle: 110 Degrees; Distance: 100 Meters Engine: F101; Power: Bokground; Temp: 44 Degrees F

Bar Press: 987.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (48)	CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG8(U)3 CG9(U)	C-WT DHUDD LEVEL C4B <c>3</c>	30130 39ND 39L (38)	648(4)] 8440 SE 8471 8441 8441 8441	E48 <c>3 BAMB SL BAMB SL C+US C+US BAMB SL BAMB BAMB BAMB BAMB BAMB BAMB BAMB BAM</c>
5	50.0	0.0	0.0			
6.3	58.0	0.0	0.0			
3	57.3	0.0	0.0	61.0	1.3	41.3
10	55.6	0.0	41.3			
12.5	55.8	0.0	44.7			
16	55.0	0.0	46.5	59.5	5.7	50.3
20	52.8	2.3	16.6			
25	51.2	5.5	16.9			
31.5	53.1	13.0	50.1	56.4	13.8	53.3
10	50.1	15.5	13.1			
50	19.3	19.7	43.5			
63	54.9	23.7	54.1	57.7	32.6	58.9
00	52.5	30.0	52.0			
<u> 100 </u>	52.2	33.2	52.0			
125	51.5	35.4	51.3	55.5	33.3	55.3
160	16.3	33.1	15.7			
200	12.9	32.0	12.9			
<u>250</u>	10.6	32.0	10.5	16.5	38.0	15.5
31.5	41.5	35.0	11.6	L		
100	11.1	38.3	11.1			
500	<u> 39.0</u>	35.8	39.8	14.4	18.9	44.4
650	33.2	35.3	38.2			
308	37.8	37.0	37.0		14 1	
1000 1250	37.0 36.4	37.0 37.0	37.0	41.9	31.3	11.9
1600	33.9	34.9	35.1			
2000	32.7	33.9	33.3	77 (70 7	37.1
2500	31.7	33.0	32.5	37.6	38.7	11.1
3150	29.3	30.5	23.3			<u></u>
1000	25.3	26.3	21.5	31.3	32.3	30.6
5989	21.9	22.4	20.5	ر.،پر	36.3	<u> </u>
5380	17.5	17.1	15.5			
9098	11.0	12.9	11.17	20.6	19.7	17.0
10000	15.2	12.7	10.0		* * * * * * * * * * * * * * * * * * * *	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1

BUERHEL LEVELS (S) (G)MOO HE'

OBSER * 47.2 dBkts . a matht of that



Tablic 20: Proposed dos la logición (1995) es Blut baselas.

Values 13: Angle: 120 Degraen: Distance: 180 Metera
Logice: 1305; Power: Bokgraund: Temp: 44 Degrees f

IMBLE 25: Measured Moise Spectrum Lavels. Location: R/F32I-9 NSS. Ellsworth RFD SD.

Station: 13 Angle: 120 Degrees: Distance: 100 Meters Engine: F101; Power: Bokground; Temp: 44 Degrees F

Bar Press: 907.7 mBar; Rel Humidity: 37%; Winds: 5 Knots

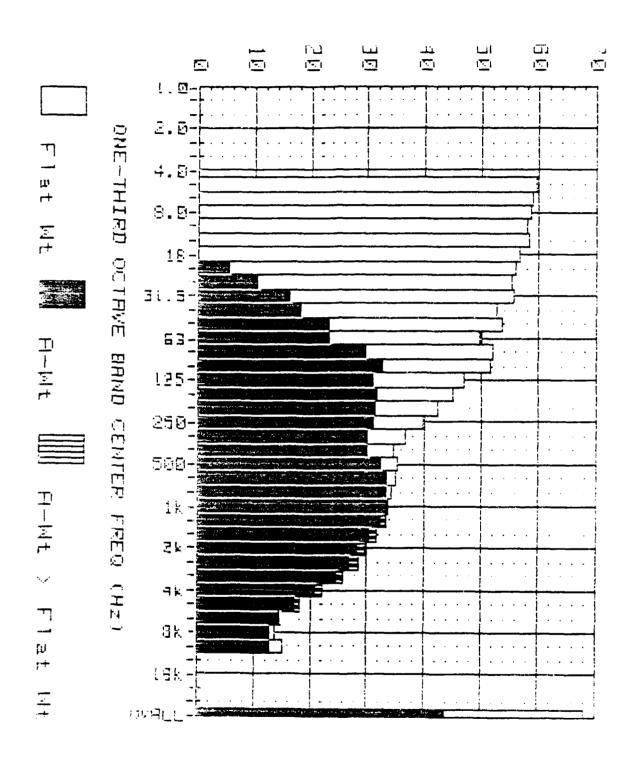
FREQ (Hz)	SBUND PRESSURE LEVEL (dB)	n-ut sound LEUEL EdB(n>3	CHUT SOUND LEVEL Ed8 <c>3</c>	(48) 8848 66180E	A-WT OCTAVE BAND SL CBB(A)3	0-41 00100E 00100 SE 048<0>1
5	52.6	0.0	9.0			
6.3	58.8	0.0	0.0			
8	51.7	0.0	0.0	56.5	1.8	30.2
13	52.5	0.0	33.2			
12.5	52.5	ប.0	11.3			
1.5	19.2	0.0	11, 1	55.0	1.8	15.6
20	45.7	0.0	39.5			
25	13.9	0.0	39.5			
31.5	50.1	10.7	17.1	53.1	16.0	50.1
10	19.0	11.1	17.0			
50	56.1	25.9	54.3			
63	19.0	22.0	13.2	57.5	30.1	56.1
00	13, 3	26.1	18.1			
100	51.5	32.1	51.2			
125	16.0	29.9	15.3	53.1	35.7	52.0
150	13.5	30.2	13.5			
200	18.5	29.7	10.6			
250	37.3	20.7	37.3	12.9	33.1	12.9
315	33.0	27.2	33.0			
100	33.2	20.3	33.2			
580	31.3	31.1	31.3	39.0	36.1	39.0
<u>630</u> 908	35.8	33.1	35.0			
1000	31.1 32.7	33.6	31.1	70.0	72.0	70.0
1250	32.1	32.7	32.7	30.0	37_0	38.8
1688	22.3	32.7	32.1	·		
2000	26.1	30.3 27.3	29.2	71 0	72.0	
2500	21.1	25.1	25.9	31.0	32.9	31.6
31.50	20.0	22.0	23.0			
1000 1000	17.2	10.2	20.3	23.1	24.3	22.4
5000	15.2	15.7	16.1 13.9	23.1	21.2	22.1
5388	13.0	13.8	11.9			
0000	13.1	12.3	10.1	10.0	17.6	
10000	11.:)	12.1	10.2	10.0	<u>1.1.1.1.1.1.</u>	15.7
1,000.0		16.1	(1) 4			

******* 19900 Hz>***

08SPL = 62.9 aB DESLET South all Co.

38SLA = 42.0 ∂B(A)

€-8 UHLUE ≈ :16.2



fraume 20: Measured Horse Spectrum (SML us Howle Levels). constront in 1921 A 1999. Clibwin to his Sb. Station: (1 Angle: 130 Degrees: Distance: 100 Meters

Engine: F181; Power: Bokground; Temp: 44 Degrees F

YARIF 26: Measured Hoise Spectrum Levels. Location: A/F32I-9 MSS. Elisworth AFB 5D.

Station: 14 Angle: 130 Degrees: Distance: 100 Meters Engine: F101; Power: Background; Temp: 44 Degrees F Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-M1 SOUND FEAST CGB(U)	C-MT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MI OCTANE BAND SL CAB(C)3
5	59.8	0.0	0.0			
6.3	59.0	0.0	0.0			
8	58.5	0.0	0.0	63.2	4.8	43.6
10	57.9	0.0	43.5			
12.5	58.3	0.0	47.0			
16	56.6	0.0	48,1	61.8	7.4	53.2
20	55.9	5,4	49.7			
25	55.3	10.6	51.0			
31.5	55.5	16.1	52.5	59.5	20.7	56.3
40	52.7	18.1	50.8			
50	53.5	23.3	52.2			
63	49,5	23.3	48.7	56.7	31.3	55.8
80	52.1	29.6	51.6			
100	51.6	32.5	51.3			
125	46.9	30.8	46.7	53.5	36.4	53.2
160	44.8	31.4	44.7			
200	42.2	31.3	42.2			
250	39.7	31.0	39.7	44.8	35.6	44.8
315	36.6	30.0	36.6			
400	34.6	29.8	34.6			
500	35.3	32.1	35.3	39.8	36.7	39.8
630	35.0	33.1	35.0			
800	34.0	33.3	34.0			
1000	33.4	33.4	33.4	38.2	38.1	38.2
1250	32.7	33.3	32.7			_
1600	30.5	31.5	30.4			
2000	28.4	29.6	28.2	33.7	34.8	33.5
2500	27.3	28.6	27.0			
3150	24.7	25.9	24.2			
4000	21.1	22.1	20.3	26.8	27.9	26.1
5000	17.5	18.0	16.2			
6300	14.5	14.4	12.5			
8000	14.0	12.9	11.0	19.4	18.2	16.3
16000	15.2	12.7	10.3			

0VERALL LEBELS (5 - 10000 Hz)

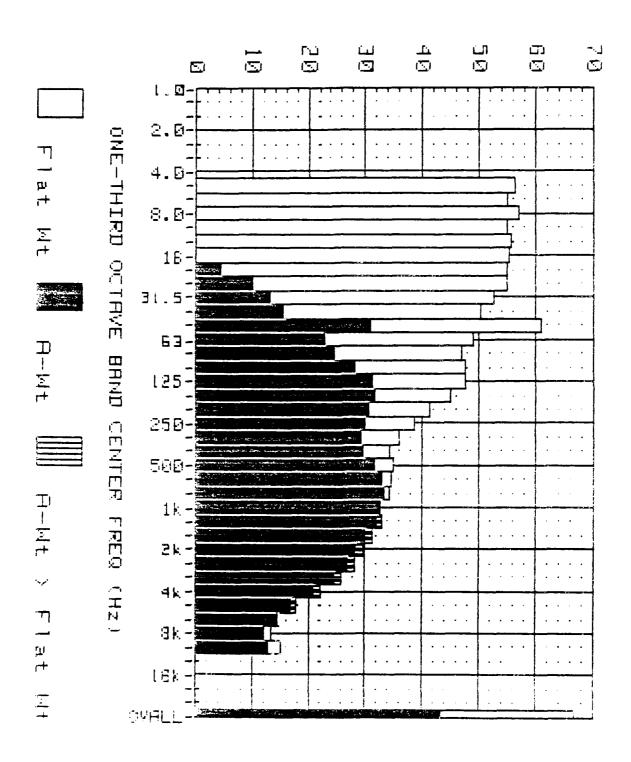


Figure 27: Measured Noise Spectrum (SPL us A-Wt Levels).
Lucation: h. saled HGu. Elloworth HFG 50.
Station: 15 Angle: 140 Degrees; Distance: 100 Meters
Engine: F101; Power: Bokground; Temp: 44 Degrees F

FABLE 27: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 15 Angle: 140 Degrees; Distance: 100 Meters Engine: F101; Power: Bokground; Temp: 44 Degrees F

Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEUEL (dB)	A-MT SOUND LEVEL EdB(A)]	C-ML SORND FEAB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)]
5	56.4	0.0	0.0			
6.3	54.9	0.0	0.0			
8	56.9	0.0	0.0	60.5	4.8	40.8
10	55.1	0.0	40.8			
12.5	<u>55.5</u>	0.0	44.3			
16	55.2	0.0	46.7	60.0	6.3	51.7
20	54.9	4.4	48.7			
25	54.9	10.3	50.6			
31.5	52.5	13.1	49.5	57.8	18.3	54.3
40	50.1	15.5	48.1			
50	61.0	30.8	59.7			
63	49.0	22.8	48.2	61.4	32.2	60.1
80	47.0	24.5	46.5			
100	47.5	28.4	47.2			
125	47.4	31.3	47.2	51.5	35.4	51.3
160	45.0	31.6	44.9			
200	41.3	30.4	41.3			
250	38.5	29.9	38.5	43.9	34.7	43.9
315	35.9	29.3	35.9			
400	34.3	29.4	34.3			
500	3 1 .8	31.6	34.8	39.3	36.2	39.3
630	34.7	32.8	34.7			
800	34.0	33.3	34.0			
1000	32.7	32.7	32.7	37.8	37.7	37.8
1250	32.2	32.8	32.2			
1600	30.4	31.4	30.3			
2000	28.4	29.6	28.2	33.6	34.7	33,4
2500	27.1	28.4	26.8			
3150	24.8	26.0	24.3			
4000	21.1	22.1	20.3	26.8	27.9	26.2
5000	17.2	17.7	15.9			
6300	14.5	14.4	12.5			
3000	13.4	12.3	10.4	19.2	13.0	15.1
10000	15.2	12.7	10.8			

OUERALL LEUELS (5 - 10000 Hz)

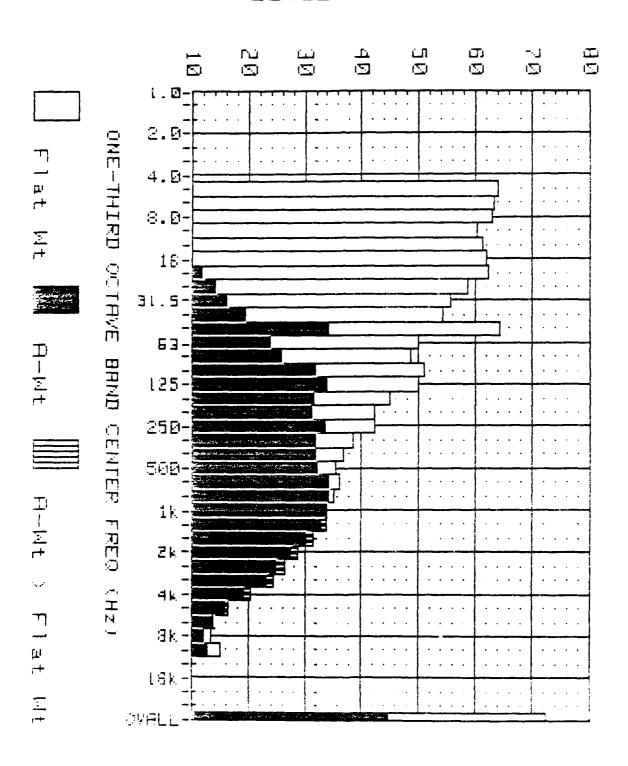


Figure 28: Measured Moise Spectrum (SPL us deWit Levels).

- MacLone and File did. Existents 8:5 30.

Station: 16 Angle: 150 Degrees: Distance: 100 Meters Engine: F101: Power: Bokground: Temp: 44 Degrees F TABLE 28: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 16 Angle: 150 Degrees: Distance: 100 Meters Engine: f101; Power: Bokground; Temp: 44 Degrees f

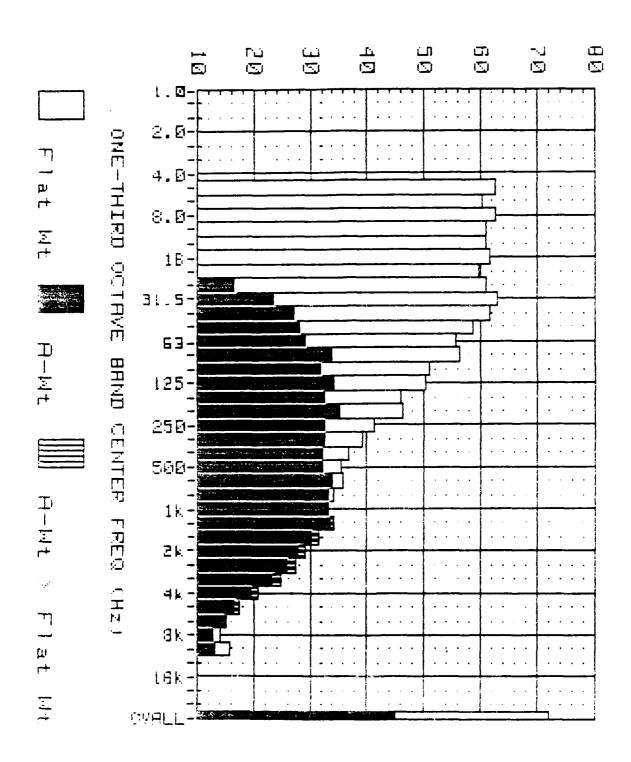
Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-M1 C-M1 C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MI OCTAVE BAND SL EdB(C)]
5	64.1	0.0	0.0			
6.3	63.3	0.0	0.0			
88	62.9	0.0	0.0	67.1	4.8	45.9
10	60.2	0.0	45,9			
12.5	61.3	0.0	50.0			
16	61.8	5.1	53.3	66.6	12.9	58.6
20	62.4	11.9	56.2			
25	58.8	14.0	54.3			
31.5	55.4	16.0	52.4	61.3	21.9	57.9
40	54.1	19.5	52.1			
50	64.4	34.2	63.1			
63	49.9	23.7	49.1	64.6	35,1	63.4
80	48.5	26.0	48.0			
100	51.0	31.9	50.7			
125	1 9.9	33.8	49.7	54.1	37.3	53.8
160	45.0	31.6	44.9			
200	42.1	31.2	42.1			
250	42.0	33.4	42.0	46.0	37.1	45.0
315	38.6	32.0	38.6			
400	36.7	32.0	36,7			
500	35,5	32.3	35.5	41.0	37.8	41.0
630	36.2	34.3	36.2			
800	35.1	34.4	35.1			
1000	33,7	33.7	33.7	38.9	38.8	38.9
1250	33.3	33.9	33.3			
1600	30.7	31.7	30.6			
2000	27.7	28.9	27.5	33.2	34.3	33.0
2500	25.3	26.6	25.0			
3150	23.4	24.6	22.9			
4000	19.5	20.5	18.7	25.4	26.5	24.7
5000	16.0	16.5	14.7			
6300	13.9	13.8	11.9			
<u>8000</u>	13.4	12.3	10.4	19.0	17.7	15.3
10000	15.2	12.7	10.8			

77.3 dB DASP! 38560 - 35.9 (BCC)

- OASLA ≈ -44.9 dB(A)

C-A VALUE - +21.0



isquee 29: Moasured Noise Spectrum (SPL us A-Wt Lauel).
Cocation. 60321 9 MS., Slisworth afd SB.

Station: 17 Angle: 160 Degrees; Distance: 100 Meters Engine: F101; Power: Bokground: Temp: 44 Degrees F TABLE 29: Measured Noise Spectrum Levels. Location: A/F32I-9 NSS. Ellsworth AFB SD.

Station: 17 Angle: 160 Degrees; Distance: 100 Meters Engine: F101; Power: Bckground; Temp: 44 Degrees F

Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-MT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)]
5	62.6	0.0	0.0			
6.3	60.3	0.0	0.0			
8	62.5	0.0	0.0	66.2	4.8	46.8
10	61.1	0.0	46.8			
12.5	61.0	0.0	49.8			
16	61.5	4.9	53.0	65.5	10.8	57.1
20	59.5	9.0	53.3			
25	61.1	16.4	56.7			
31.5	62.8	23.4	59.8	66.7	28.9	63.8
40	61.8	27.2	59.8			
50	58.5	28.3	57.2			
63	55.5	29.3	54.7	61.7	36.0	60.8
80	56.4	33.9	55.9			
100	51.1	32.0	50.8			
125	50.2	34.1	50.0	54.3	37.7	54.1
160	45.8	32.4	45.7			f
200	46.2	35.3	46.2			
250	41.0	32. 4	41.0	48.0	38.5	48.0
315	39.3	32.7	39.3			
400	37.0	32.2	37.0			
500	35.4	32.2	35.4	40.9	37.6	40.9
630	35.8	33.9	35.8			
800	34.0	33.3	34.0			
1000	33.1	33.1	33.1	38.4	38.4	38.4
1250	33.7	34.3	33.7			
1600	30.7	31.7	30.6			
2000	28.1	29.3	27.9	33.5	34.6	33.3
2500	26.2	27.5	25.9			
3150	23.5	24.7	23.0			
4000	19.9	20.9	19.1	25.7	26.7	25.0
5000	16.9	17.4	15.6			<u> </u>
6300	15.0	14.9	13.0			
8000	1 4 . 1)	12.9	11.0	19.8	18.5	15.6
10000	15.8	13.3	11.4			

OUERALL LEUELS (5 - 10000 Hz)

095PL = 72.1 dB

OASLA = 45.3 dB(A)

08510 = 56.5 dB(0)

C-A UALUE = +21.2

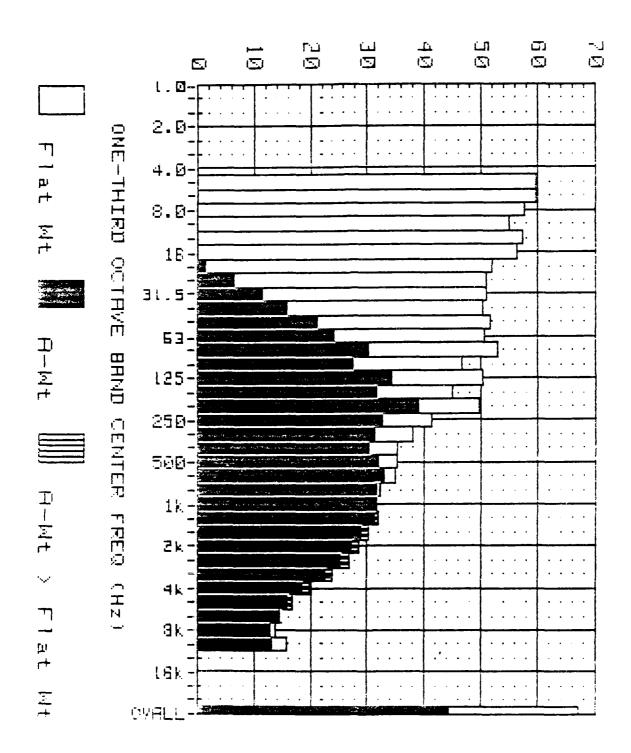


Figure 50: Measured Noise Spectrum (SPL us A-Ut Levels).

Station: 18 Angle: 170 Degrees; Distance: 100 Meters Engine: F101; Power: Bokground; Temp: 44 Degrees F TABLE 30: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 18 Angle: 170 Degrees; Distance: 100 Meters Engine: F101; Power: Bokground; Temp: 44 Degrees F

Bar Press: 907.7 mBar; Rel Humidity: 87%; Winds: 5 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	CAB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	59.6	0.0_{-}	0.0			
6.3	59.7	0.0	0.0			
8	57.7	0.0	0.0	62.6	4.8	40.7
10	54.9	0.0	40.7			
12.5	57.3	0.0	46.0			
16	56.4	0.0	47.9	60.5	5.4	51.5
20	52.1	1.5	45.9		· · · · · · · · · · · · · · · · · · ·	
25	51.1	6.4	46.7			
31.5	50.8	11.4	47.8	55.5	17.5	52.4
40	50.4	15.8	48.4			
50	51.6	21.4	50.3			
63	50.5	24.3	49.7	56.5	31.7	55.7
80	52.8	30.3	52.3		<u></u>	
100	46.7	27.6	46.4			
125	50.2	34.1	50.0	52.6	36.6	52.4
160	44.8	31.4	44.7			
200	49.7	38.8	49.7		<u> </u>	
250	41.3	32.7	41.3	50.5	40.3	50.5
315	37.8	31.2	37.8		<u></u>	
400	35.1	30.3	35.1			
500	35,2	32.0	35.2	39.8	36.7	39.8
630	34.8	32.9	34.3		<u> </u>	
800	32.2	31.4	32.2			<u></u>
1000	31.6	31.6	31.6	36.5	36.5	36.5
1250	31.4	32.0	31.4			
1600	29.3	30.3	29.2			
2000	27.4	28.6	27.2	32.5	33.6	32.3
2500	25.7	27.0	25.4			
3150	22.8	24.0	22.3			
4000	19.0	20.0	18.2	24.9	26.0	24.3
5000	16.3	16.8	15.0			
6300	14.5	14.4	12.5			
8000	14.0	12.9	17.0	13.5	18.3	16.4
10000	!5.9	13.3	11.4			

OUERALL LEUELS (5 - 10000 Hz)

UASPU = 67.9 dB

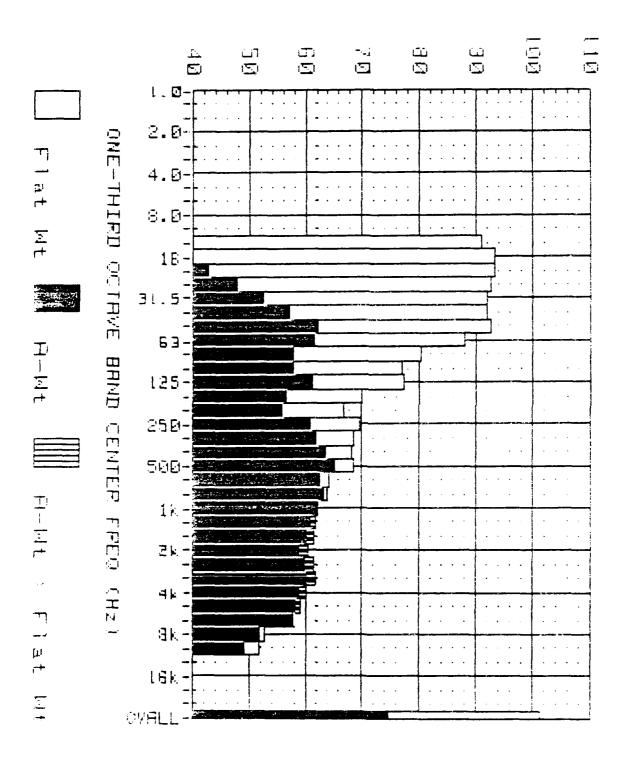
08SLH = 44.6 dB(A) 0-A DALUE = +15.4

98310 - 99.0 48/0>

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APPENDIX C

Stage 2 (Run 2) 1/3 Octave Band Data



inqure 1: Measured Noise Spectrum (SPL us H-Wt Levels). Constron: mil 521-9 MSS. Ellisworth Hf8 SD. carron: 5 male: 0 becreest Sistance: 100 Meters Engine: 8101; Power: Afterburner: Temp: 48 Degrees f

TABLE 1: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: O Angle: O Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-UT SOUND LEVEL EdB(A)]	CQB(C)] FENET C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-ML OCLANE BAND ST EGB(C)3
12.5	90.9	27.5	79.7			
16	93.4	36.7	84.9	97.4	43.8	89.6
20	93.2	42.7	87.0			
25	92,5	47.8	88.1			
31.5	91.9	52.5	88.9	96.9	58.9	93.8
40	91.9	57.3	89.9			
50	92.5	62.3	91.2			
63	87.9	61.7	87.1	94.0	65.8	92.9
80	80.3	57.8	79.8			
100	77.0	57.9	76.7			
125	77.2	61.1	77.0	80.5	63.7	80.3
160	69.8	56.4	69.7			
200	66.9	56.0	66.9			
250	69.4	60.8	69.4	73.2	65.0	73.2
315	68.5	61.9	68.5			
400	58.3	53.5	68.3			
560	68.4	65.2	68.4	72.2	68.6	72.2
630	64.3	62.4	64.3			
800	54.0	63.2	64.0			
1000	62.3	62.3	62.3	67.5	67.3	67.5
1250	61.3	61.9	61.3			
1600	60.6	61.6	60.5			
2000	59.2	60.4	59.0	64.8	66.0	64.6
2500	60.2	61.4	59.9			
3150	60.6	61.8	60.1			
4000	59.2	60.2	58.4	64.3	65.3	63.5
5000	58.7	59.2	57.4			
6300	57.9	57.8	55.9			
3000	52.9	51.8	49.9	59.8	59.2	57.3
10000	51.7	49.2	47.3			

****OUERALL LEUELS (12.5 - 10000 Hz)***

HASPL = 191.1 aB UHSLC = 97.3 aB<C> = OASLA = 74.9 dB(H) C-H UAL E = +22.4

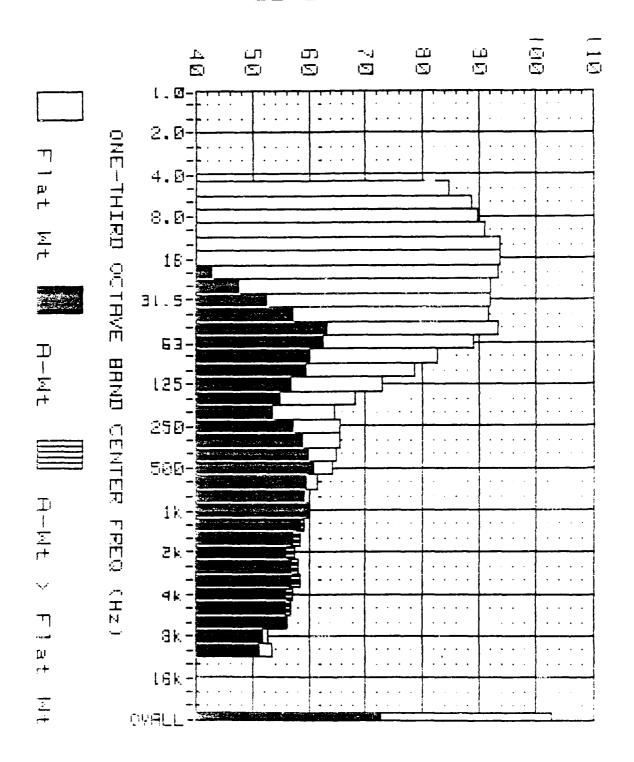


Figure 2: Measured House Spectrum (SPL os A-Wt Levels). Location: 0.5321 9 853. Clibworth AF3 50. Station: 1 Angle: 10 Degrees: Distance: 100 Meters Engine: F101: Power: Afterburner: Temp: 48 Degrees F

ABLE 2: Measured Moise Spectrum Levels. Location: MYF32T-9 MSS. Ellsworth AFB SD.

Station: 1 Angle: 10 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	84.5	0.0	0.0			
6.3	88.8	0.0	0.0			
8	89.5	0.0	0.0	94.6	20.7	75.8
10	91.1	29.7	76.8			
12.5	93.6	30.2	82.4			
16	93.7	37.0	85.2	98.3	44.0	90.1
20	93.3	42.8	87.1			
25	92.1	47.4	87.7			
31.5	92.0	52.6	89.0	96.7	58.7	93.6
40	91.7	57.1	89.7			
50	93.2	63.0	92.0			
63	88.8	62.6	88.0	94.9	66.9	93.7
80	82.7	60.2	82.2			
100	78.7	59.6	78.4			
125	73.0	56.9	72.8	80.0	62.3	79.8
160	68.3	54.9	68.2			
200	64.4	53.5	64.4			
250	65.7	57.1	65.7	70.0	61.7	79.5
315	65.4	58.3	65.4			
400	64.7	53.9	64.7			
500	64.0	60.8	64.0	68.4	64.9	68.4
630	61.4	59.5	61.4			
800	60.2	59.4	60.2			
1000	59.7	59.7	59.7	64.3	64.2	64.3
1250	58.7	59.3	58.7			
1600	57.4	58.4	57.3			
2000	56.2	57.4	56.0	61.6	62.8	61.5
2500	57.0	58.3	56.7			
3150	57.2	58.4	56.7			
4000	56.3	57.3	55.4	61.3	62.3	60.5
5000	56.2	56.7	54.9			
6300	56.0	55.9	54.0	L		
8000	52.9	51.8	49.9	59.1	58.2	56.3
10000	53.6	51.1	49.2			

OVERALL LEVELS (5 - 10000 Hz)

OBSPt = 102.5 d8 OBSEC = 37.7 d8(0) OBSER = 72.8 dB(A) C-A UBLUE = +24.9

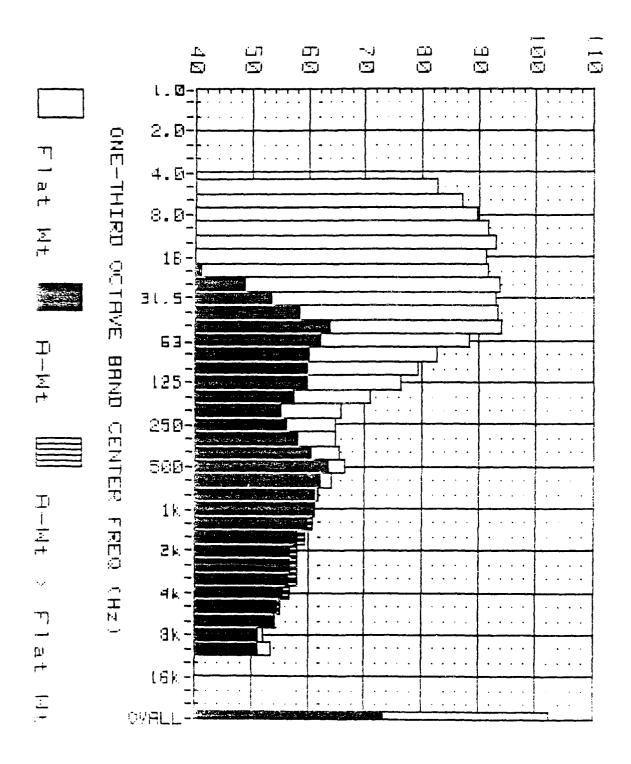


Figure 3: Absoured Noise Spectrum (SPL us A-Ut Levels).

Figure 3: Absoured Noise Spectrum (SPL us A-Ut Levels).

Figure 3: Absoured Noise Spectrum (SPL us A-Ut Levels).

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Figure 4: Absoured Noise Spectrum (SPL us A-Ut Levels).

Figure 4: Absoured Noise Spectrum (SPL us A-Ut Levels).

Figure 4: Absoured Noise Spectrum (SPL us A-Ut Levels).

Figure 5: Absoured Noise Spectrum (SPL us A-Ut Levels).

Figure 5: Absoured Noise Spectrum (SPL us A-Ut Levels).

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Figure 5: Absoured Noise Spectrum (SPL us A-Ut Levels).

Figure 5: Absoured Noise Spectrum (SPL us A-Ut Levels).

Figure 6: Absoured Noise Spectrum (SPL us A-Ut Leve

TABLE 3: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 2 Angle: 20 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Jemp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL EdB(A)]	C-MT SOUND LEVEL C-WT	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL CdB <c>1</c>
5	82.7	0.0	0.0			
6.3	87.0	0.0	0.0			
- 8	89.5	0.0	0.0	94.5	21.1	77.2
10	91.5	21.1	77.2		<u></u>	
12.5	92.9	29.5	81.7		<u> </u>	
16	91.3	34.6	82.8	96.8	42.2	88.4
20	91.6	41.1	85.4			
25	93.7	49.0	89.3			
31.5	93.0	53.6	90.0	98.1	60.1	95.0
40	93.2	58.6	91.2			
50	93.9	63.7	92.6		<u></u>	
63	88.3	62.0	87.5	95.2	67.0	94.1
80	82.7	60.2	82.2			
100	79.1	60.0	78.8			
125	76.1	60.0	75.9	81.3	64.1	81.0
160	70.8	57.4	70.7			
200	66.0	55.1	66.0		L	
250	64.8	56.2	54.3	76.0	61.5	70.0
315	64.9	58.3	64.9		i	<u></u>
400	65.3	60.6	65.3			
500	66.5	63.4	66.6	70.2	67.0	70.0
630	64.0	62.2	64.0			
800	62.0	61.2	62.0			
1000	61.2	61.2	61.2	65.9	65.8	65.9
1250	60.2	60.9	60.2			
1600	58.5	59.4	58.3			
2000	57.1	58.3	56.9	62.3	63.5	62.2
2500	57.0	58.3	56.7			
3150	56.8	58.0	56.3			
4000	55.7	56.7	54.9	60.6	61.6	59.8
5000	54.8	55.3	53.5			
6300	54.2	54.1	52.2			
8000	52.1	51.0	49.1	58.1	57.1	55.2
10000	53.6	51.1	49.2			

******** - 10000 Hz.***

08SPt = 102.5 gB

0ASLA = 73.6 aB(A) C:A UALUE = +34.6

98900 = 48.2 a8000

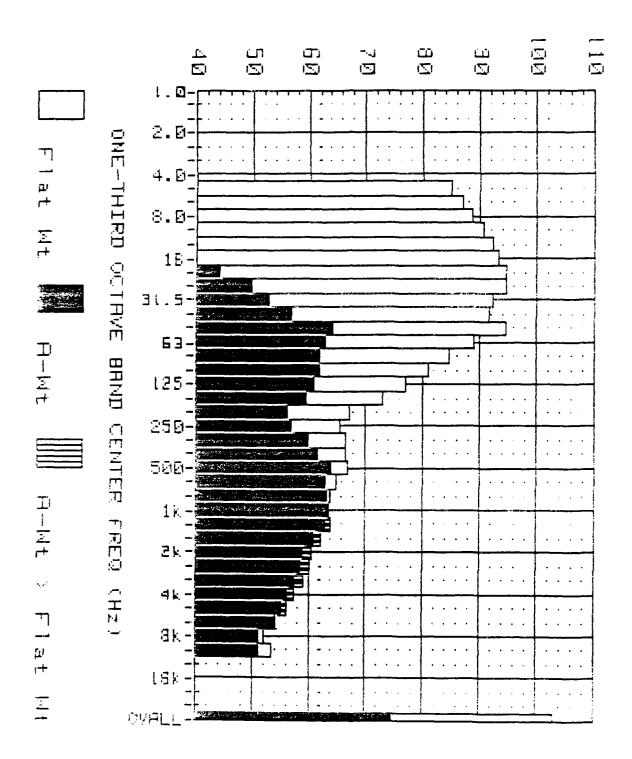


Figure 4: Amasured Hoise Spectrum (SPL os A-Wt Levels).
to ation: 1 (821 of 45). Ellowerth AfA 50.
Station: 3 Angle: 30 Begrees; Distance: 100 Meters
Engine: F101; Power: Afterburner: Temp: 48 Degrees F

TABLE 4: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 3 Angle: 30 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL CdB(C)]	OCTAUE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MI BUND ST BUND ST C-MI
5	85.1	0.0	0.0			
6.3	86.9	0.0	0.0			
8	88.4	0.0	0.0	93.7	20.3	76,4
10	90.7	20.3	76.4			
12.5	92.3	28.9	81.1			
16	93.2	36.5	84.7	98.3	45.0	90.5
20	94.7	44.2	88.5			
25	94.6	49.9	90.2			
31.5	92.3	52.9	89.3	97.8	59.0	94.5
40	91.6	57.0	89.6			
50	94.4	64.2	93.1			
63	88.9	62.7	88.1	95.9	67.9	94.7
80	84.4	61.9	83.9			
100	80.9	61.8	80.6			
125	76.8	60.7	76.6	82.8	65.5	82.5
160	72.9	59.5	72.8			
200	67.1	56.2	67.1			
250	65,5	56.9	65.5	71.2	62.8	71.2
315	66.5	59.9	66.5			
400	66,4	51.6	66,4			
500	66,9	63.7	66.9	70.9	67.6	70.9
630	64.7	62.8	64.7			
800	63,9	63.1	63.9			
1000	63.6	63.6	63.6	68.4	68.3	68.4
1250	63.3	63.9	63.3			
1600	61.3	62.3	61.2			
2000	59.3	60.5	59.1	64.7	65.8	64.5
2500	58.7	60.0	58.4			
3150	57.9	59.1	57.4			
4000	56.6	57.6	55.8	61.6	62.5	60.8
5000	55.6	56.1	54.3			
6300	54.2	54.1	52.2			
8000	52.1	51.0	49.1	58.1	57.1	55.2
10000	53.6	51.1	49.2			

OUERALL LEUELS (5 ~ 10000 Hz)

98SPL = 192.9 dB

OASLA = 74.9 dB(A)

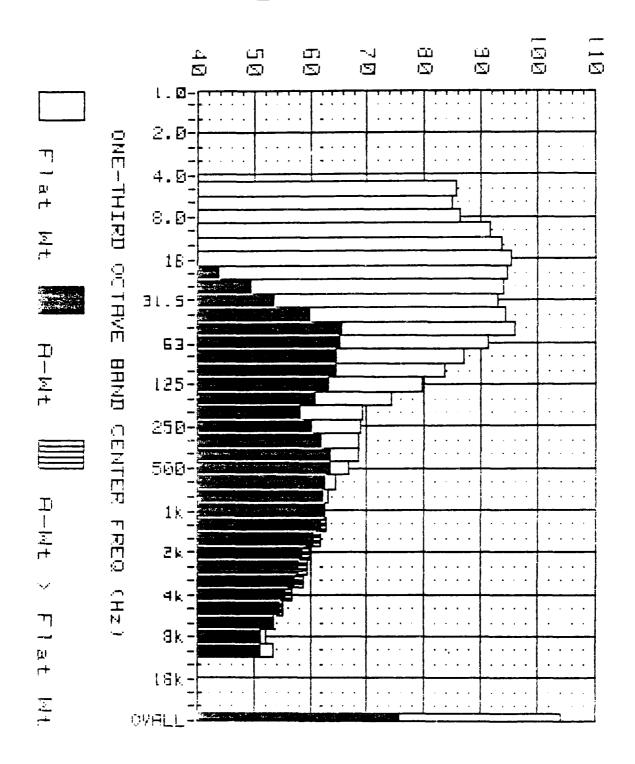


figure 5: Measured Hoise Spectrum (SPL us A-Wt Levels).
controls (100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F

TABLE 5: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 4 Angle: 40 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-M1 C-M1 C-M1 C-M1
5	85.6	0.0	0.0			
6.3	84.8	0.0	0.0			
8	86.2	0.0	0.0	93.3	21.2	77.2
10	91.5	21.1	77.2			
12.5	93.7	30,3	82.5			
16	95.2	38.5	86.7	99.3	45.2	91.2
20	94.4	43,9	88.2			
25	94.1	49.4	89.7			
31.5	93.0	53.6	90.0	98.6	61.0	95.6
40	94.3	59.7	92.3			
50	95.9	65.7	94.6			
63	91.2	65.0	90.5	97.6	69.9	96.5
80	86.9	64.4	86.4			
100	83.6	64.5	83.3			
125	79.4	63.3	79.2	85.4	67.9	85.1
160	74.3	60.9	74.2			
200	69.2	58.3	69.2			
250	68.9	60.3	68.9	73.7	65.2	73.7
315	63.6	62.0	68.6			
400	68.4	63.6	68.4			
500	66.8	63.6	66.8_	71.6	68.0	71.6
630	64.5	62.6	64.5_			
800	63.1	62.3	63.1			
1000	62.6	62.6	62.6	67.4	67.4	67.4
1250	62.3	62.9	62.3			
1600	60.9	61.9	60.8			
2000	58.7	59.9	58.5	64.2	65.3	64.0
2500	58.1	59.4	57.8			
3150	57.5	58.7	57.0			
4000	55.7	56.7	54.9	60.5	61.9	60.1
5000	54.8	55.3	53.5			
6300	53.6	53.5	51.6			
3000	52.1	51.0	49.1	57.9	56.8	54,9
10000	53.6	51.1	49.2			

OUERALL LEVELS (5 - 10000 Hz)

988PL = 103.9 dP 888EC = 99.3 dBrc/ ORSER = 75.9 dB(A) C-A MALUE = +24.1

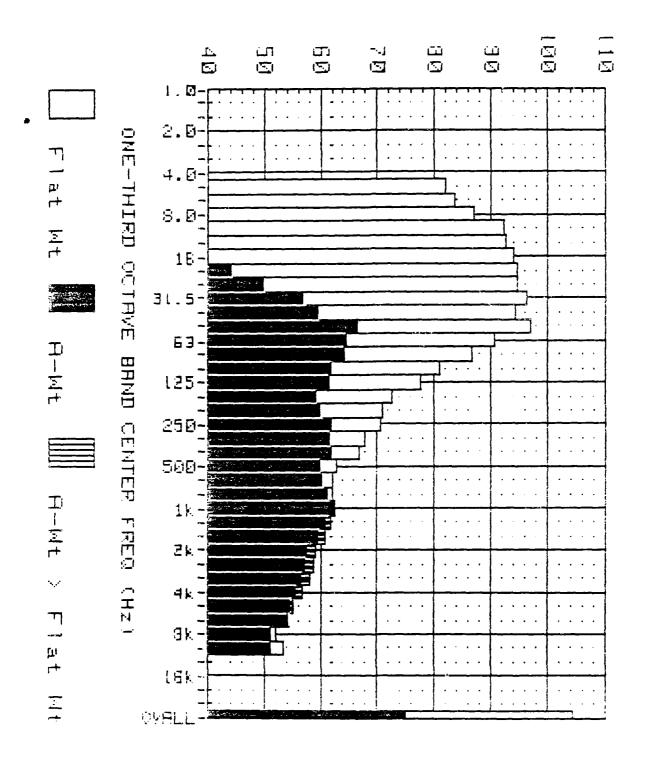


Figure 6: Measured Hoise Spectrum (SPL us A-Wt Levels).
Estation: H. 18321 - 1 MSS. Alloworth BPB NO.
Station: 5 Angle: 50 Degrees; Distance: 100 Meters
Engine: F101; Power: Afterburner; Temp: 48 Degrees F

TABLE 6: Measured Hoise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 5 Angle: 50 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB(A)]	CGB(C)1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	81.8	0.0	0.0			
6.3	83.7	0.0	0.0			
8	86.8	0.0	0.0	93.9	22.0	78.1
10	92.3	21.9	78.0			
12.5	92.7	29.3	81.5			
16	93.9	37.2	85.4	98.6	45.0	90.7
20	94.6	44.1	88.4			
25	94.6	49.9	90.2			
31.5	96.3	56.9	93.3	99.9	61.8	96.8
40	94.2	59.6	92.2			
50	96.8	66.6	95.6			
63	90.7	64.5	90.0	98.1	70.D	97.0
80	86.5	64.0	86.0			
100	80.8	61.7	80.5			
125	77.5	61.4	77.3	82.9	65.7	82.7
160	72.7	59.3	72.6			
200	70.9	60.0	79.9			
250	70.5	61.9	70.5	74.7	65.9	74.7
315	68. 0	61.4	68.0			
400	66.7	62.0	66.7			
500.	62.9	59.7	62.9	69.2	65.6	69.2
630	62.2	60.3	52.2			
800	62.2	61.4	62.2			
1000	62.4	62.4	62.4	66.7	66.7	66.7
1250	61.3	61.9	61.3			
1600	59.9	60.9	59.8			
2000	57.8	59.0	57.6	63.3	64.4	63.1
2500	57.4	58.7	57.1			
3150	56.8	58.0	56.3			
4000	55.9	57.0	55.2	60:7	61.7	59.9
5000	54.8	55.3	53.5			
6300	54,2	54.1	52.2			
8000	52.1	51.0	49.1	58.1	57.1	55.2 ·
19000	53.6	51.1	49.2			

OUERALL LEVELS (5 - 10000 Hz)

0HSPL = 104.2 dB 0HSLC = 100.5 dB(C) OASEA = 75.1 dB(A) C-A UALUE = +25.5

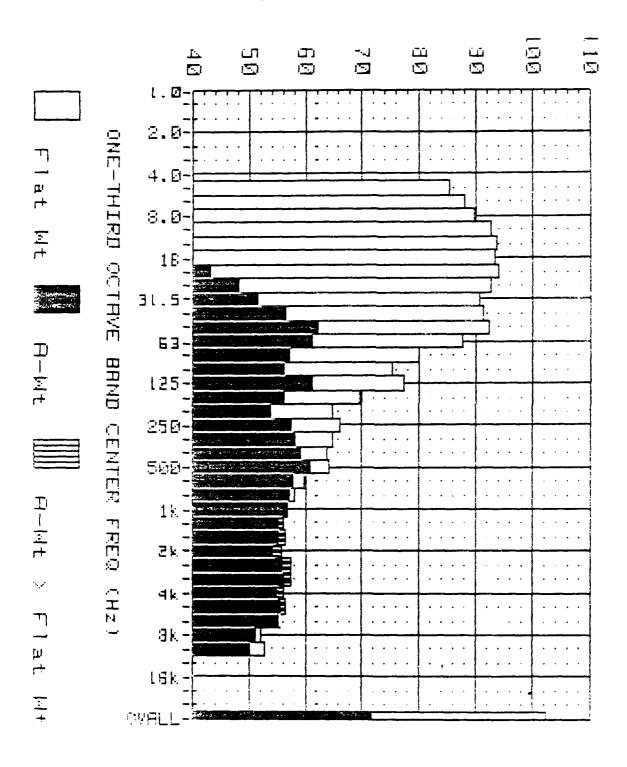
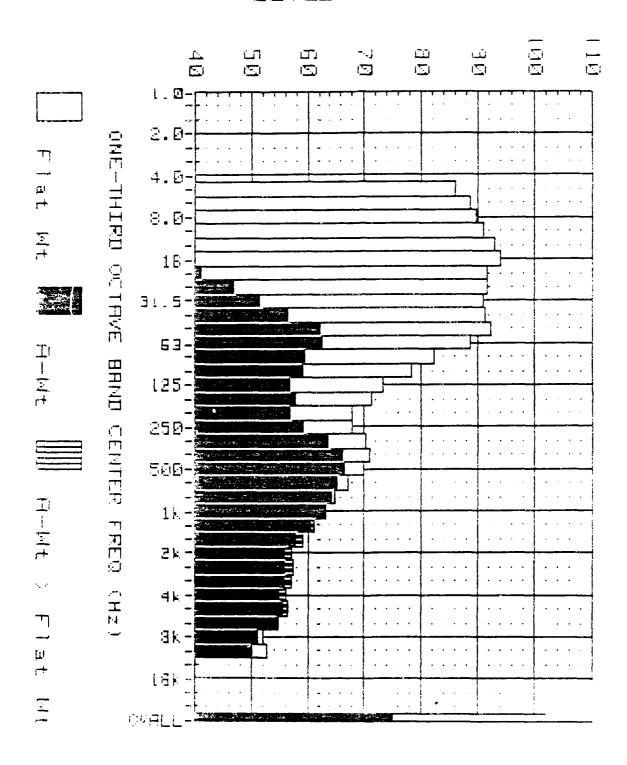


TABLE 7: Measured Hoise Spectrum Levels.
Location: H/F321-9 NSS. Ellsworth AFB SD.

Station: 00 Angle: 0 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

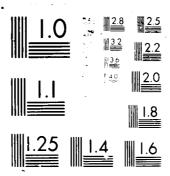
FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	CGB(A)]	C-UT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	85.1	0.0	0.0			
6.3	98.0	0.0	0.0			
8	89.6	0.0	0.0	95.2	22.1	78,2
1.0	92.5	22.0	78.2			
12.5	93.6	30,2	82.4			
16	93.4	36.7	84.9	98.4	44.3	90.2
20	93.8	43.3	87.6		· · · · · · · · · · · · · · · · · · ·	
25	92.7	48.0	88.3			
31.5	90.7	51.4	87.8	96.4	58.1	93.2
40	91.1	56.5	89.1			
50	92.3	62.1	91.0			
63	87.5	61.3	86.7	93.7	65.5	92.6
80	79.9	57.4	79.4			
100	75.3	56.1	75.0			
125	77.1	61.0	76.9	79.7	63.2	79.5
150	69.6	56.2	69.5			
200	64.7	53.8	64.7			
250	66.2	57.6	66.2	70.0	61.7	79.0
315	64.8	58.2	64.8			
400	63.9	59.2	63.9			
500	64.2	51.0	64.2	67.8	54.3	67.3
630	59.8	57.9	59.8			
800	58.2	57.4	58.2			
1000	56.7	56.7	56.7	61.7	61.5	61.7
1250	55.6	56.2	55.6			
1600	55.3	56.4	55.2			
2000	54.6	55.8	54.4	60.2	61.4	60.0
2500	56.2	57.5	55.9			
3150	56.4	57.6	55.9			
4000	55.1	56.1	54.3	60.6	61.5	59.3
5000	55.9	56.5	54.7			
6300	55.2	55.1	53.2			ll
8000	52.1	51.0	49.1	58.3	57.4°	55.5
10000	52.7	50.2	48.3			

00ERALL LEDELS (S - 10000 Hz)



Ligure 9: Measured Hoise opectrim (AFT) by Hour coop
consit. (i) Angle: 10 Begrees: Distance: PRO Merce
Engine: F101: Power: Afterburner: Tempo 48 Degree

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IABLE 8: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 01 Angle: 10 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL Ed8(A)]	C-UT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	86.0	0.0	0.0			
6.3	88.6	0.0	0.0			
88	89.7	0.0	0.0	94.7	20.7	76.8
10	91.0	20.6	76.8			
12.5	92.8	29.4	81.6			
16	94.1	37.4	85.6	97.7	42.9	89.3
20	91.7	41.2	85.5			
25	91.6	46.9	87.2			
31.5	91.1	51.7	88.1	96.0	58.1	93.0
40	91.1	56.5	89.1			
50	92.4	62.2	91.1			
63	88.6	62.4	87.8	94.2	66.4	93.1
80	82.2	59.7	81.7			
100	78.4	59.3	78.1			
125	73.1	57.0	72.8	80.1	62.9	79.8
160	71.2	57.8	71.1			
200	67.8	57.0	67.8			
250	67.9	59.3	67.9	73.6	65.6	73.6
315	70.3	63,7	70.3			
400	79.9	<u>56.1</u>	70.9			
500	69.9	66.7	69.9	74.4	70.8	74.4
630	67.2	65.3	67.2			
800	64.8	64.0	64.8			
1000	63.1	63.1	63.1	68.0	67.7	68.0
1250	60.7	61.3	60.7			
1600	58.2	59.2	58.1			
2000	56.1	57.3	55.9	61.7	62.9	61.6
2500	56.2	57.5	55.9			
3150	56.1	57.3	55.6			
4000	55.1	56.1	54.3	60.5	61.4	59.7
5000	55.9	56.5	54.7			
6300	54.7	54.6	52.7			
8000	52.1	51.0	49.1	58.1	57.2	55.3
10000	52.7	50.2	48.3			

****OUERALL LEUELS (5 - 10000 Hz)***

98SPL = 192.1 dB 98SLC = 97.1 dB(C) OASLA = 75.1 dB(A)

C-A VALUE = +21.9

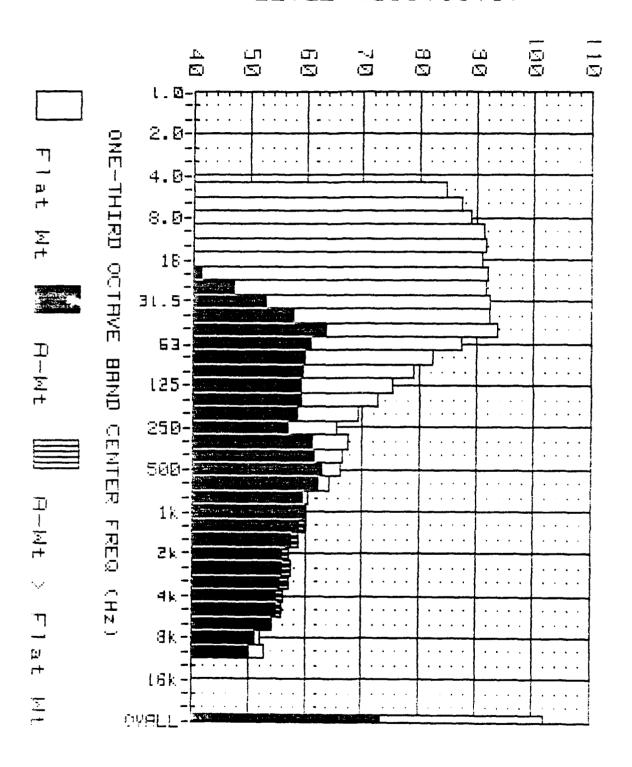


Figure 9: Measured Noise Spectrum (SPL us A-Wt Levels). Polition. In Figure 1985. Elipworth RF8 SD. Station: 02 Angle: 20 Degrees; Distance: 100 Meters Engine: f101; Power: Afterburner; Temp: 48 Degrees F

IRBLE 9: Measured Hoise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 02 Angle: 20 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-M1 SOUND FEAB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-MT OCTAVE BAND SL EdB(C)]
5	84.5	0.0	0.0			
6.3	87.4	0.0_	0.0			
8	88.8	0.0	0.0	94.2	20.8	76.9
10	91.2	20.8	76.9			
12.5	91.7	28.3	80.5			
16	90.9	34.2	82.4	96.3	42.3	88.2
20	91.9	41.4	85.7			
25	91.7	47.0	87.3			
31.5	92.2	52.8	89.3	96.9	59.3	93.9
40	92.4	57.8	90.4			
50	93.7	63.5	92.4			
63	87.2	61.0	86.4	94.8	66.5	93.7
80	82.3	59.8	81.8			
100	78.7	59.7	78.5			
125	75.1	59.0	74.9	81.0	64.1	30.8
160	72.7	59.3	72.6			
200	69.4	58.5	69.4			
250	65.5	57.0	65.5	72.6	63.9	72.6
315	67.7	61.1	67.7			
460	66.5	61.7	66.5			
500	66.1	62.5	66.1	70.4	67.1	70.4
630	64.2	62.3	64.2			
800	60.4	59.7	60.4			
1000	59.9	59.9	59.9	64.6	64.5	64.6
1250	59.1	59.7	59.1			
1600	57.7	58.7	57.6			
2000	56.1	57.3	55.9	61.5	62.7	61.3
2500	56.2	57.5	55.9			
3150	55.8	57.0	55.3			
4000	55.1	56.1	54.3	60.1	61.1	59.3
5000 -	55.1	55.6	53.8			
6300	54.1	54.0	52.1			
8000	52.1	51.0	49.1	57.8	56.8	54.9
19000	52.7	50.2	48.3			

AASPL = 191.8 dB AASLC = 97.5 dB(C) OASLA = 73.4 dB(A) C~A UALUE = +24.1

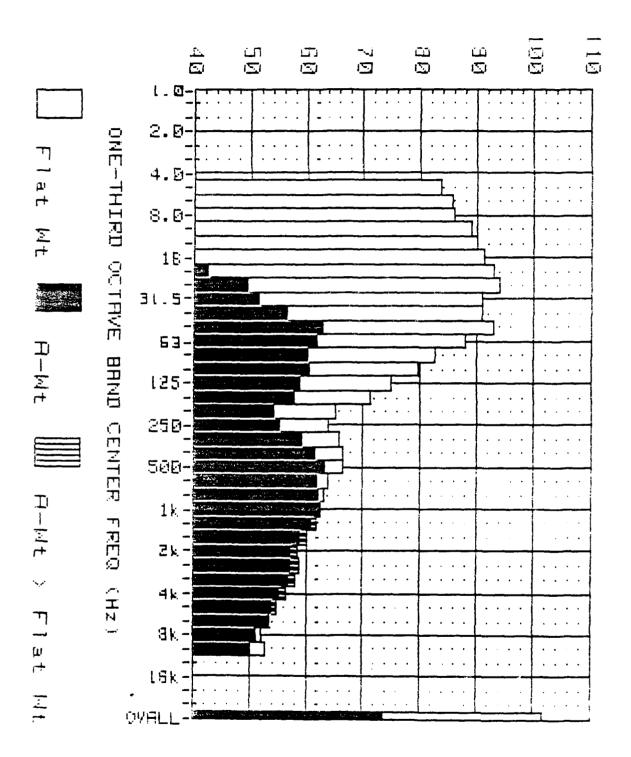


figure 10: Measured Noise Spectrum (SPL os A-Wt Levels).
...ation: ACT 321-9 MSS. Ellsworth Af8 SB.
.tation: ub hngle: bd Degrees; Distance: 100 Meters
Engine: F101; Power: Hfterburner; Temp: 48 Degrees F

iABLE 10: Measured Noise Spectrum Levels.
Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 03 Angle: 30 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND FEAST EGB(U)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)3	C-WT OCTAVE BAND SL EdB(C)]
5	83.5	0.0	0.0			
6.3	85.6	0.0	0.0			
8	85.8	0.0	0.0	91.8	18.6	74.6
10	89.8	18.4	74.5			
12.5	89.9	26.5	73.7			
16	91.2	34.5	82.7	96.3	43.2	88.7
20	93.0	42.5	86.8			
25	94.1	49.4	89.7			
31.5	90.8	51.4	87.8	97.0	58.2	93.7
40	91.0	56.4	89.0			
50	93.0	62.8	91.7			
63	88.0	61.8	87.2	94.5	66.5	93.4
80	82.7	60.2	82.2			
100	79.7	60.6	79.4			
125	75.0	58.9	74.8	81.4	64.0	81.1
160	71.3	57.9	71.2			
200	65.2	54.3	65.2			
250	63.8	55.1	63.8	69.7	61.5	69.7
315	65.8	59.2	65.8		<u></u>	
408	66.5	61.7	66.5			
500	66.5	63.3	66.5	70.5	67.1	70.5
630	63.8	61.9	63.8			
800	63.0	62.3	63.0			
1000	62.6	62.6	62.6	67.1	67.0	67.1
1250	61.2	61.8	61.2			
1600	59.1	60.1	59.0			
2000	57.4	58.6	57.2	62.9	64.0	62.7
2500	57.6	58.9	57.3			
3150	57.0	58.2	56.5			
4000	55.5	56.5	54.7	60.5	61.5	59.7
5000	54.1	54.6	52.8			
6300	53.5	53.4	51.5			
8000	52.1	51.0	49.1	57.6	56.5	54.6
10000	52.7	50.2	48.3			

OVERALL LEVELS (5 - 10000 Hz)

0ASPL = 101.5 dB 0ASLC = 97.3 dB(C) OHSLA = 73.7 dB(A) C-A UALUE = +23.6

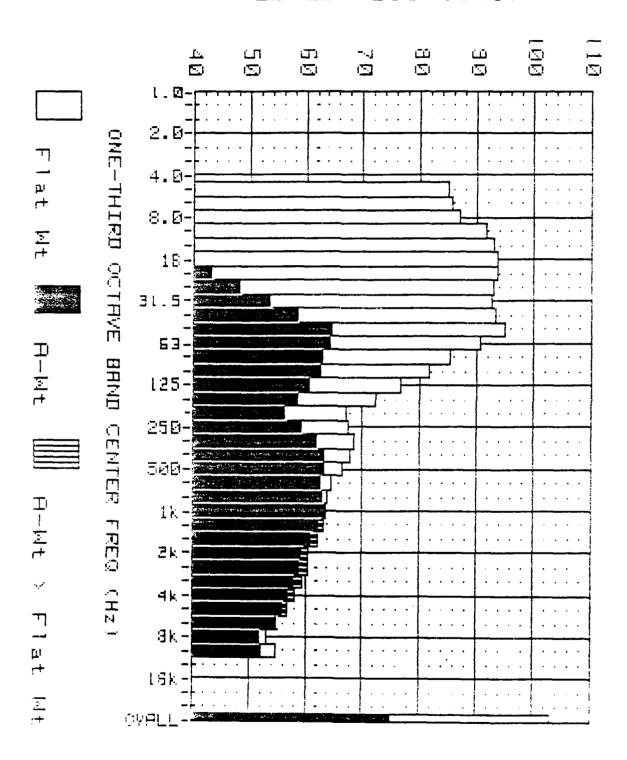


Figure 11: descured Noise Spectrum (SPL os A-Wt Levels).

Discussion: do 101 de 850. Ellowerth nFB 10.

Station: 04 Angle: 40 Degrees; Distance: 100 Meters

Engine: F101; Power: Afterburner; Temp: 48 Degrees F

TABLE 11: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

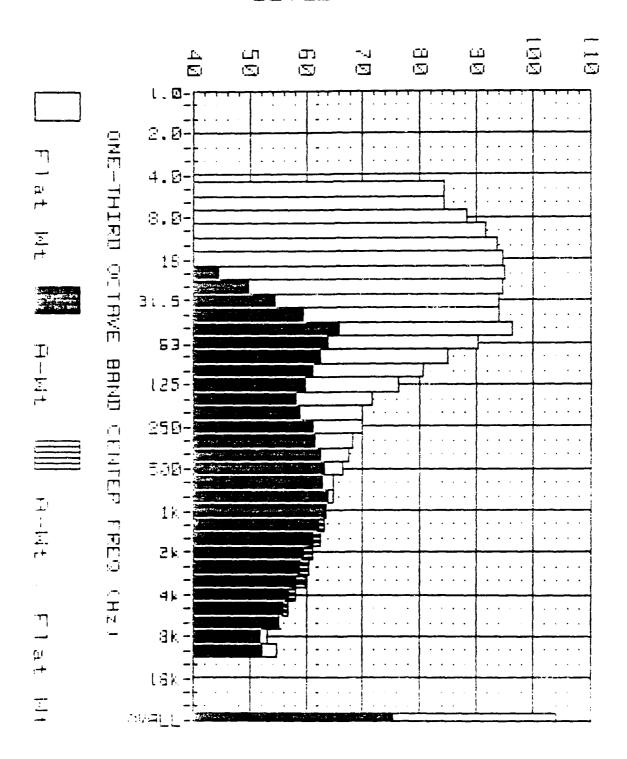
Station: 04 Angle: 40 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	CGB(U)] PEAET POOND U	EGB(C)] FENET C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB <c>1</c>
5	84.8	0.0	0.0			
6.3	85.6	0.0	0.0			
8	87.0	0.0	0.0	93.7	21.4	77.5
10	91.7	21.3	77.5			
12.5	93.1	29.7	81.9			
16	93.8	37.0	85.3	98.3	44.2	90.2
20	93.6	43.1	87.4			
25	93.0	48.3	88.6			
31.5	92.7	53.3	89.7	97.8	60.0	94.8
40	93.2	58.6	91.2			
50	94.8	64.6	93.5			
63	90.5	64.3	89.7	96.5	68.7	95.4
80	85.3	62.8	84.8	<u></u>		
100	81.7	62.6	91.4			
125	76.5	60.4	76.3	83.2	65.6	82.9
160	72.1	58.7	72.0			
200	57.2	56.3	67.2			
250	67.7	59.1	67.7	72.6	64.4	70.8
315	68.5	61.9	68.5			
400	67.9	63.2	67.9			
500	66.4	63.2	66.4	71.2	67.7	71.3
630	64.3	62. 4	64.3			
800	63.8	63.D	63.8			
1000	63.6	63.6	63.6	68.1	68.0	68.1
1250	62.6	63.2	62.6			
1600	61.3	62.3	61.2			
2000	59.4	60.6	59.2	64.9	66.0	64.7
2500	59.3	60.6	59.0			
3150	58.3	59.5	57.8			
4000	57.1	58.1	56.3	62.0	63.0	61.2
5000	56.2	56.7	54.9			
6300	54.8	54.7	52.8			
<u> </u>	53.1	52,0	50.1	59.0	57.9	5ő.J)
19880	54.7	52. <i>2</i>	50.3			

0UERALL LEUEL3 (5 - 10000 Hz)

080P1 - 100.0 88 3800 - 75.9 8800

- 0ASLA = - 75,3 de∈a) - 0:A UALUE = +13.5



TRBLE 12: Measured Hoise Spectrum Lavels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 05 Angle: 50 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

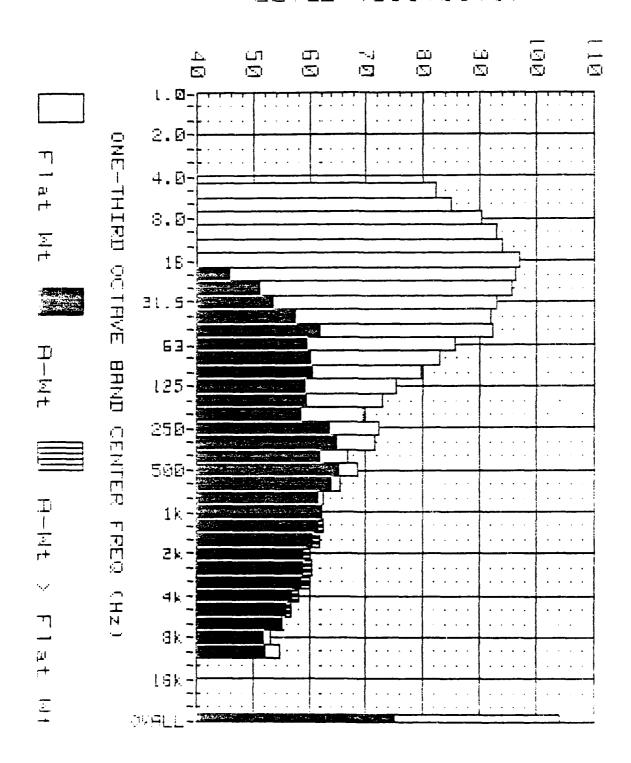
FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	CGB(U)] FEREF SONND U-ML	C-WT SOUND LEVEL EdB(C)]	OCTAUE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)J	C-WT OCTAVE BAND SL EdB(C)3
5	84.1	0.0	0.0			
6.3	84.4	0.0	0.0			
8	88.2	0.0	0.0	93.9	21.4	77.5
10	91.7	21.3	77.5			
12.5	93.6	30.2	82.4			
16	94.8	38.1	86.3	99.3	45.6	91.4
20	95,1	44.6	88.9			
25	94.6	49.9	90.2			
31.5	93,9	54.4	90.8	99.0	61.0	95.9
40	94.1	59.5	92.1			
50	96,2	66.0	94.9			
63	90.2	64.0	89.4	97.4	69.2	96.3
80	85.0	62.5	84.5			
100	80.4	51.4	80.2			
125	76.0	59.9	75.8	82.2	64.8	81.9
160	71.6	58.2	71.5			
200	69.8	58.9	69.8			ll
250	69.9	61.3	69.9	74.1	65.5	74.1
31.5	68.3	61.7	68.3			
400	67.4	62.7	67.4			
500	66.5	63.3	66.5	71.1	67.7	71.1
630	54.7	62.9	64.7			
800	64.8	64.0	64.8			
1000	63.6	63.6	63.6	68.5	68.4	68.5
1250	62.6	63.2	62.6			
1600	51.6	62.6	61.5			
2000	59.9	61.1	59.7	65.1	66.3	65.0
2500	59.3	60.6	59.0			
3150	58.7	59.9	58.2			
4000	57.1	58.1	56.3	62.2	63.2	61.4
5000	56.2	56.7	54.9			L
6300	55.3	55.2	53.3			
8000	53.1	52.0	50.1	59.2	58.2	56.3
16000	54.7	52.2	50.3			

OVEPALL LEVELS (5 ~ 16000 Hz)

08921 = 103.9 MB

OASLA ≈ 75.5 d8(E) C-A UALUE = +24.3

98566 × 98.3 48/67



Tipure 184 - Messured House Spectrum (CDN, os A-Gt Legels).

The Control of the CDN and the CDN (Control of the CDN)

Station: Bb - Hogle: 60 Degrees; Distance: 100 Meters

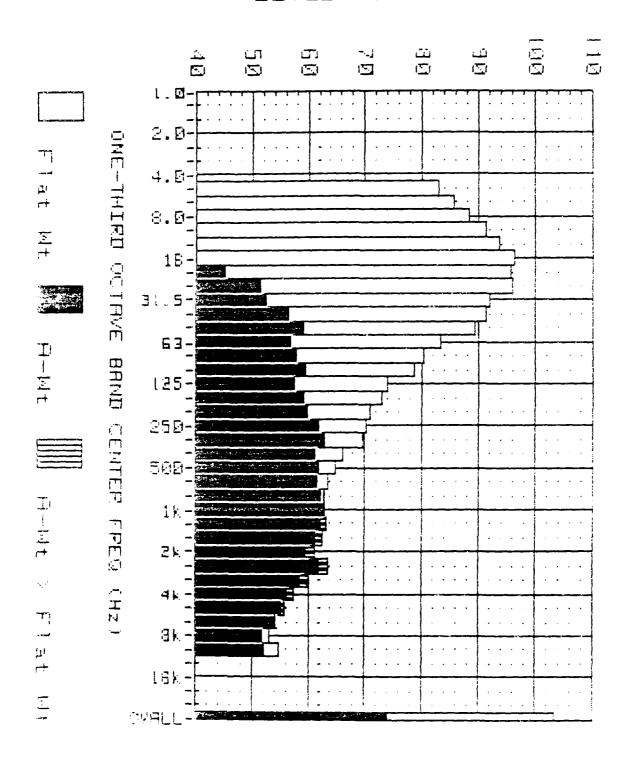
Engine: F101: Power: Hfterburner; Temp: 48 Degrees F

TRBLE 13: Measured Horse Spectrum Levels. Location: AZF32I-9 NSS. Ellsworth AFB SD.

Station: 06 Angle: 60 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(V) FENET POND U-MI	C-MI SOUND LEVEL CdB(C)]	OCTAUE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SE EdB(C)]
5_	82.4	0.0	0.0			
6.3	85.0	0.0	0.0			
88	90.1	0.0	0.0	95.1	22.5	78.6
10	92.8	22.4	78.5			
12.5	93.8	30.4	82.6			
1.6	96.9	40.2	88.4	100.6	46.9	92.7
20	96.2	45.7	90.Û			
25	95.7	51.0	91.3			
31.5	93.0	53.6	90.0	98.6	59.6	95. 2
40	92.0	57.4	90.0			
50	92.2	62.0	90.9			
63	85.6	59.4	84.8	93.5	65.5	92.3
80	82.9	60.4	82.4			
100	79.6	60.5	79.3			
125	75.3	59.2	75.0	81.6	64.5	81.3
150	72.9	59.5	72.8			
200	59.6	58.7	69.6			
250	72.3	53. ñ	70.3	76.0	67.9	75.0
315	71.6	55.0	71.6			
400	56.3	<u>52.0</u>	66.8			
500	68.5	65.3	68.5	71.9	68.6	71.9
630	65.7	63.8	65.7			
800	62.4	61.6	62.4			
1000	62.1	62.1	62.1	66.9	66.9	66.9
1250	61.9	62.5	61.9			I
1600	60.9	61.9	60.8			
2000	59.1	60.3	58.9	64.6	65.7	64.4
2500	59.3	60.6	59.0			
3150	59.0	60.2	58.5			
4000	57.1	58.1	56.3	62.3	63.3	61.5
50:)0	<u> 56.2</u>	56.7	54.9			
<u> </u>	55.3	55.2	53.3			
3930	= 5.1	52.0	50.1	59.2	53. 1	56.3
1 (a)fa)	54.7	50.0	50.3			

| Heart | 197.9 | HEART | | HEART | HE



o tquee 14: Abacumed Morse Spectrum (SPL os How't Fedels), on the Station of the Advisoration of the Station of the Advisor of the Station
TABLE 14: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 07 Angle: 70 Degrees: Distance: 100 Meters Engine: F101: Power: Afterburner: Temp: 48 Degrees F Bar Press: 899.3 mBar: Rel Humidity: 72%: Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MI SOUND LEVEL EdB(A)]	CGB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	82.9	0.0	0.0			
6.3	85.7	0.0	0.0			
8	88.1	0.0	0.0	93.6	20.8	76.9
10	91.2	20.8	76.9			
12.5	93.5	30.1	82.3			
16	96.4	39.7	87.9	100.1	46.3	92.2
20	95.6	45.1	89.4			
25	96.1	51.4	91.7			
31.5	92.0	52.6	89.0	98.4	58.8	94.9
40	91.1	56.5	89.1			<u></u>
50	89.4	59.2	88.1			
63	83.2	57.0	82.4	90.7	62.9	39.6
80	80.3	57.8	79.8			
100	78.6	59.5	78.3			
125	73.8	57.7	73.5	80.6	63.7	80.3
160	72.9	59.4	72.7			
200	70.8	59.9	70.8			
250	70.4	61.8	70.4	75.0	66.4	75.0
315	69.5	62.9	69.5			
400	€6.2	61.4	66.2			
500	65.0	61.8	65.0	69.8	66.3	69.8
630	63. 4	61.5	63.4			
800	62.9	62.1	62.9			
1000	63.0	63.0	63.0	67.6	67.5	67.6
1250	62.5	63.1	62.5			
1600	61.4	62.4	61.3			
2000	60.0	61.2	59.8	66.1	67.2	65.8
2500	62.2	63.5	61.9			
3150	58.8	60.0	58.3			
4000	56.5	57.5	55.7	61.9	62.9	61.1
5000	55.3	55.8	54.1			
6300	54.2	54.1	52.2	•		
8000	53.1	52.0	50.1	58.8	57.6	55.7
10000	54.7	52.2	50.3			

****OUERALL LEUELS (5 - 10000 Hz)***

OHSPL = 103.2 dB (GGSLC = 37.7 dB(C) OASLA = 79.3 dB(A) C-A VALUE = +23.3

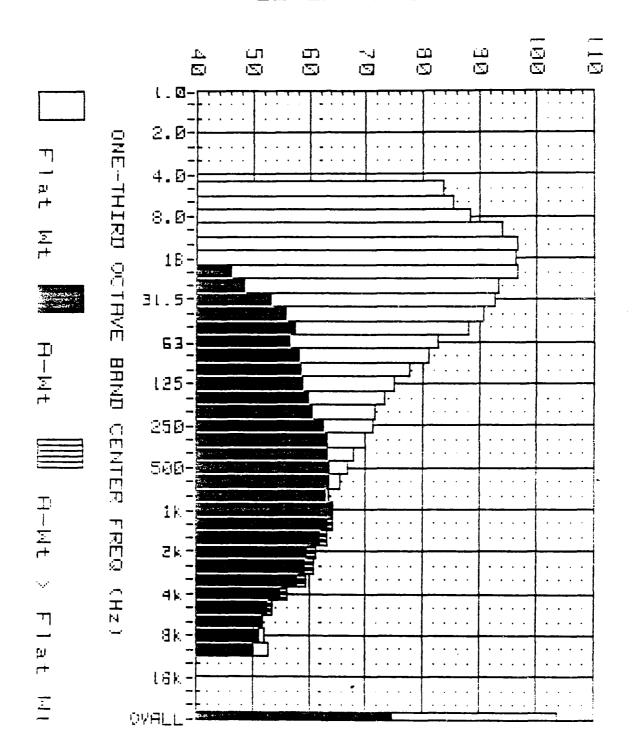


Figure 15: Measured Noise Spectrum (SPL us A-Wt Levels). Postion: d FF21:49 MSS. Ellsworth AF8 SO.

Station: 08 Angle: 80 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F IABLE 15: Measured Noise Spectrum Levels.
Location: A/F32T-9 NSS. Ellsworth AFB SD.
Station: 08 Angle: 80 Degrees; Distance: 100 Meters
Engine: F101; Power: Afterburner; Temp: 48 Degrees F
Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEUEL (dB)	A-UT SOUND LEVEL EdB(A)]	C-M1 SOUND C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT OCTAVE BAND SL C-WT
5	83.6	0.0	0.0			
6.3	85.3	0.0	0.0			
8	88.1	0.0	0.0	95.3	23.5	79.6
10	93.9	23.4	79.5			
12.5	96.5	33.1	85.3			
16	96.2	39.5	87.7	101.2	47.0	93.0
20	96.5	46.0	90.3			
25	93.3	48.6	88.9			
31.5	92.6	53.2	89.6	97.1	58.3	93.8
40	90.6	56.0	88.6			
50	87.8	57.6	86.5			
63	82.6	56.4	81.8	89.6	62.3	88.5
80	80.9	58.4	80.4			
100	77.7	53.6	77.4			
125	75.0	58.9	74.8	80.4	63.9	80.2
160	73.2	59.8	73.1			
200	71.5	60.6	71.5			
250	71.3	62.6	71.3	75.7	67.0	75.7
315	59.8	63.2	69.8			
400	67.9	63.2	67.9			
500	66.9	63.7	66.9	71.7	68.2	71.7
630	65.5	63.6	65.5			
800	63.5	62.8	63.5			
1000	64.1	64.1	64.1	68.5	68.5	68.5
1250	63.5	64.1	63.5			
1600	62.0	63.0	61.9			
2000	59.9	61.1	59.7	65.4	66.5	65.2
2500	59.5	60.8	59.2		I	
3150	58.3	59.5	57.8		1	
4000	55.1	56.1	54.3	60.8	61.8	60.1
5000	53.0	53.5	51.7		I	
6300	51.7	51.5	49.7			
8000	52.1	51.0	49.1	57.0	55.7	53.3
10000	52.7	50.2	48.3			

OUERALL LEVELS (5 - 10000 Hz)

OASPL = 103.6 dB OASLC = 97.3 dB(C) OASLA = 74.8 dB(A)

C-A UALUE = +22.5

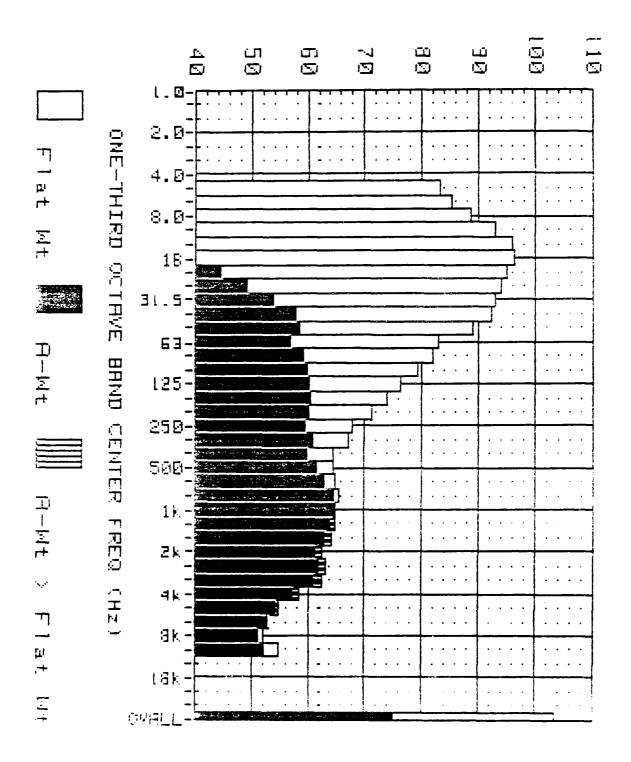


Figure 16: Ameasured Noise Spectrum (SPL os A-Wt Levels).

Localizade (1030)-9 HSS. Ellowerth (dB NO.

Station: 9 Angle: 90 Degrees; Distance: 100 Meters

Engine: 6101; Power: Afterburner: Temp: 48 Degrees F

TABLE 16: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 9 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)J
5	83.4	0.0	0.0			
6.3	85.1	0.0	0.0			
8	88.5	0.0	0.0	94.7	22.5	78.6
10	92.9	22.5	78.6			
12.5	96.1	32.7	84.8			
16	96.4	39.7	87.9	100.6	45.8	92.2
20	94.9	44.4	88.7			
25	93.8	49.1	89.4			
31.5	93.1	53.7	90.1	97.9	59.6	94.8
40	92.4	57.8	90.4			
50	88.9	58.7	87.6			
63	83.0	56.8	82.2	90.5	63.1	89.4
80	81.8	59.3	81.3			
100	79.1	60.0	78.8			
125	76.3	60.2	76.0	81.7	_65.0	31,5
160	74.0	60.6	73.9			
200	71.1	60,2	71.1			
250	58.0	59.4	68.0	73.9	64.9	73.9
315	67.3	60.7	67.3			
400	64.5	59.8	64.6			
500	64.7	61.5	64.7	69.4	66.3	69.4
630	64.7	62.9	64.7			
800	65.4	64.6	65.4			
1000	64.8	64.8	64.8	69.6	69.5	69.6
1250	64.1	64.7	64.1			
1600	63.1	64.1	63.0			
2000	61.4	62.6	61.2	67.0	68.1	66.8
2500	62.0	63.3	61.7			
3150	61.2	62.4	60.7			
4000	57.4	58.4	56.6	63.3	64.3	62.6
5000	54.3	54.8	53.1			
6300	52.8	52.7	50.8			
8000	52.1	51.0	49.1	58.1	56.8	54.9
10000	54.7	52.2	50.3			

****OUERALL LEUELS (5 - 18000 Hz)***

988PL = 103.5 dB

OASLA = 75.1 dB(A)

UBSLC = 97.6 dB(C)

C-A UALUE = +22.6

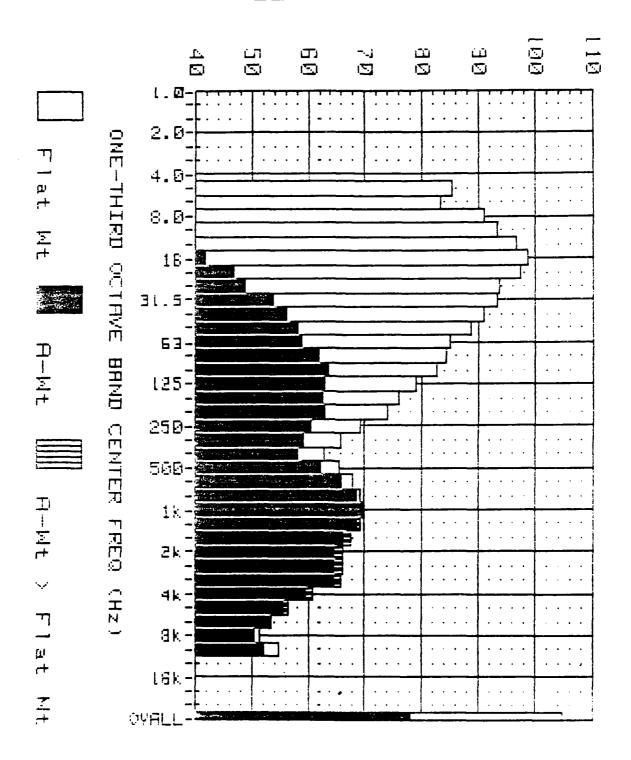


Figure 17: Measured Noise Spectrum (SPL us A-Wt Levels). Lightion: 0/2007-9 MSS. Ellsworth HFB SD. Station: 10 Angle: 90 Degrees; Oistance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F

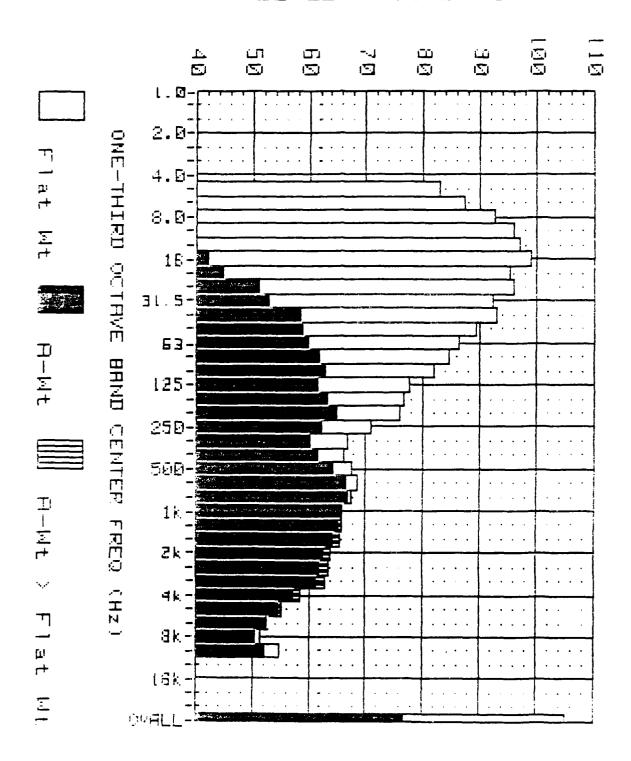
IABLE 17: Measured Moise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 10 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	H-MT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT OCTAVE BAND SL EdB(C)3
5	85.4	0.0	0.0			
6.3	83.1	0.0	0.0			
8	90.9	0.0	0.0	95.5	22.9	79.0
10	93.3	22.9	79.0			
12.5	96.6	33.2	85.4			
16	98.7	42.0	90.2	102.4	48.3	94.3
20	97.5	47.0	91.3			
25	93.5	48.8	89.1			
31.5	93.2	53.8	90.2	97.5	58.7	94.2
40	90.9	56.3	88.9			
50	88.5	58.3	87.2			
63	84.9	58.7	84.1	91.1	64.6	90.1
80	84.2	61.7	83.7			
100	82.6	63.5	82.3			
125	78.9	62.8	78.7	84.7	67.7	84.5
160	75.9	62.5	75.8			
200	73.9	63.0	73.9			
250	69.2	ი0. ი	69.2	75.7	65.0	75.7
315	65.9	59.3	65.9			
400	63.0	58.2	63.0		<u> </u>	
500	65.5	62.3	65.5	70.6	67.9	70.6
630	67.8	65.9	67.8			
800	69.4	68.5	69.4			
1000	69.7	69.7	69,7	74.1	74.0	74.1
1250	68.8	69.4	68.8			
1600	66.5	67.5	66.5			
2000	65.0	66.2	64.8	70.3	71.4	70.1
2500	64.8	66.1	64.5			
3150	64.7	66.0	64.2			
4000	59. 8	60.8	59.0	66.4	67.5	65.7
5000	55.9	56.5	54.7			
6300	53.3	53.2	51.4			
8000	51.5	50.4	48.5	58.1	56.9	55.0
10000	54.6	52.1	50.3			

OUERALL LEVELS (5 - 10000 Hz)

ORSPL = 104.6 dB OASLC = 38.3 dB(C) OASLA = 78.1 dB(B) C-A DALUE = +20.2



tagure 18: Measured Noise Spectrum (SPt us A-Wt Lavels).
Continuit of Fig. 9 MSS, Elloworth MER Sp.
Station: 11 Angle: 100 Degrees: Distance: 100 Meters
Engine: F101: Power: Afterburner: Temp: 48 Degrees F

IMBLE 18: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 11 Angle: 100 Degrees: Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	82.8	0.0	0.0			
6.3	87.1	0.0	0.0			
8	92.5	0.0	0.0	97.8	25.4	81.5
10	95.8	25.4	81.5			
12.5	97.1	33.7	85.9			
16	98.9	42.2	90.4	102.1	46.9	93.6
20	95.3	44.8	89.0			
25	95.9	51.2	91.5			
31.5	92.3	52.9	89.3	98.8	60.2	95.5
40	93.1	58,5	91.1			
50	89.1	58.9	87.8		·	
63	86.2	60.0	85.4	91.8	65.3	90.8
80	84.5	62.0	84.0			<u></u>
100	81.9	62.8	81.6			
125	77.7	61.6	77.5	84.2	67.4	83.9
160	76.7	63.3	76.6			
200	75.3	64.9	75.8			
250	79.7	62.1	70.7	77.4	67.6	77.4
315	66.7	60.1	66.7			
400	66.3	61.5	66.3		<u> </u>	
500	67.5	64.3	67.5	72.2	69.3	72.2
630	68.4	66.5	68.4		<u> </u>	
800	67.5	66.7	67.5			
1000	65.8	65.8	65.8	71.1	71.0	71.1
1250	65.3	65,9	65.3			
1600	64.6	65.6	64.5			
2000	62.7	63.9	62.5	68.1	69.2	67.9
2500	62.2	63.5	61.9			
3150	61.7	62.9	61.2			
4000	57.7	58.7	56.9	63.7	64.8	63.0
5000	54.6	55.1	53.3			
6300	52.5	52.4	50.5			
8000	51.5	50.4	48.5	57.9	56.5	54.6
10000	54.6	52.1	50.3			

OUERHLL LEUELS (5 - 10000 Hz)

SASPt = 105.1 dB

OASLA ≈ 76.9 dB(A)

GBSLC = 38.8 dB(C)

C-A UALUE = +21.9

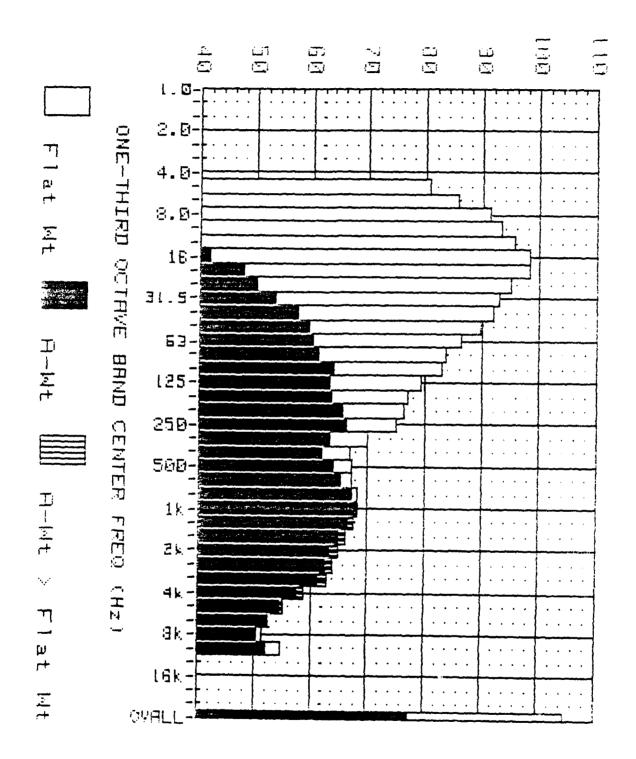


Figure 19: Measured Noise Spectrum (SPL us A-Wt Levels). Location: 4.6321-9 NSS. Ellsworth AFB SD. Parion: 10 dnyle: 110 Degrees: Distance: 100 Meters 100 Location: Power: Distance: 1emp: 48 Degrees 7

Station: 12 Angle: 110 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-M1 CGB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-M1 C-M1 C-M1 C-M1
S	80.6	0.0	0.0			
6.3	85.7	0.0	0.0			
8	91.3	0.0	0.0	95.9	23.0	79.1
10	93.4	23.0	79.1			
12.5	95.6	32.2	84.4			
16	98.3	41.6	89.8	102.4	49.0	94.7
20	98.5	48.0	92.3			
25	94.8	50.1	90.4			
31.5	92.9	53.5	89.9	98.2	59.4	94.9
40	92.0	57.4	90.0			
50	89.7	59.5	88.4			
63	86.3	60.1	85.6	92.0	65.1	91.0
80	83.7	61.2	83.2			
100	82.9	63.8	82.6		ļ	
125	79.2	63.1	79.0	85.2	68.3	84.9
160	77.0	63.6	76.9			
200	76.3	65.4	76.3			
250	74.3	66,2	74.3	79.2	69.9	79.2
31.5	69.9	63.3	69.9			
400	56.3	62.0	66.8			
500	67.2	54.0	67.2	71.8	68.7	71.3
630	67.1	65.2	67.1			
800	68.1	67.3	68.1			
1000	68.2	68.2	68.2	72.5	72.5	72.5
1250	66.8	67.4	66.8			
1600	65.1	66.1	65.0			
2000	63.5	64.7	63.3	68.7	69.8	68.5
2500	62.7	64.0	62.4			
3150	61.5	62.8	61.0			
4000	57.9	58.9	57.1	63.7	64.7	63.0
5000	54.6	55.1	53.3			
6300	52.5	52.4	50.5			
8000	51.5	50.4	48.5	57.9	56.5	54.6
19000	54.6	52.1	50.3			

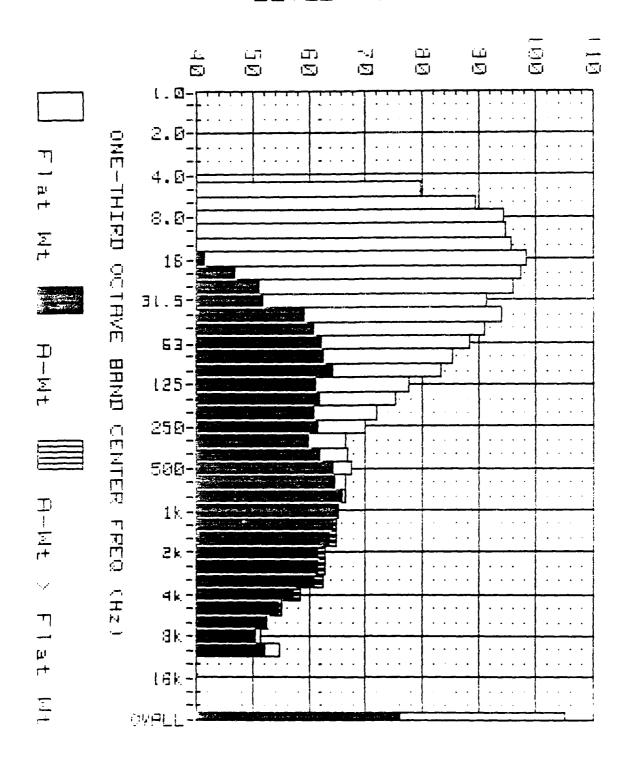
OUERALL LEVELS (5 - 10000 Hz)

085P1 = 104.8 dB

OASLA = 77.7 (B(A)

985L0 = 98.9 dB(C)

C-A VALUE = +01.0



(:gure 29: Measured Noise Spectrum (SPL us A-Ut Levels).
(:car::n: d.f3.1-0 e(d). Filsworth dF8 50.
(:car::n: 13 angl::120 begrees; Distance: 100 Meters
Engine: f101; Power: Afterburner; Temp: 48 Degrees F

FABLE 20: Measured Horse Spectrum Levels. Location: HVF32I-9 NSS. Ellsworth AFB SO.

Station: 13 Angle: 120 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MI SOUND LEVEL LEVEL	EGB(C)] FENET SONND C-MI	OCTAUE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)3
5	79.5	Q.O_	0.0			
6.3	89.3	0.0	0.0			
8	94.3	0.0	0.0	98.1	24.2	80.3
10	94.6	24.2	80.3			
12.5	95.7	32.3	84.5			
15	98.2	41.5	89.7	102.0	48.1	94.0
20	97.3	46.8	91.1			
25	95.8	51.1	91.4			
31.5	91,2	51.9	88.3	98.8	60.5	95.5
40	93.8	59.2	91.8			
50	90.9	60.7	89.6			
63	88.3	62.1	87.5	93.5	66.7	92.5
80	85.1	62.6	84.6			
100	83.3	64.2	83.0			
125	77.4	61.3	77.2	84.8	64	84.5
160	75.2	61.8	75.1			
200	71.8	60.9	71.8			
250	79.0	61.4	70.0	74.7	65.5	74.7
315	06.5	60.0	66.6			
400	66.7	61.9	66.7			
500	67.5	64.3	67.5	71.7	68.5	71.7
630	55.5	64.6	66.5			
800	56.5	65.7	66.5			
1000	65.2	65.2	65.2	70.2	70.1	70.2
1250	64.3	64.9	64.3			
1600	63.7	64.7	63.6			
2000	61.8	63.0	61.6	67.3	68.4	67.1
2500	61.7	63.0	61.4			
3150	61.2	62.4	60.7			
4000	57.5	58.5	56.7	63.3	64.4	62.6
5000	54.6	55.1	53.3			
6300	52.5	52.4	50.5			
8000	51.5	50.4	48.5	57.9	56.5	54.6
10000	54.6	52.1	50,3			

*** OUERALL LEVELS (5 - 10000 Hz)***

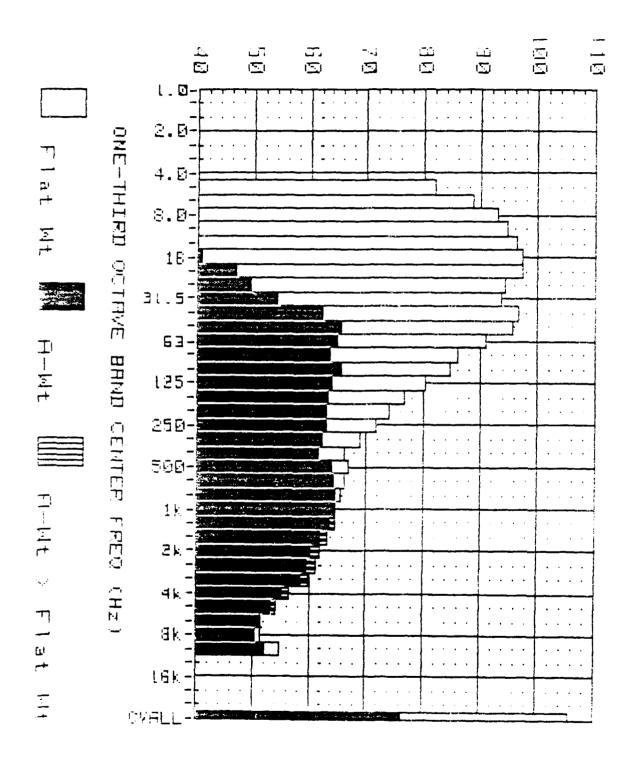


Figure 21: Measured Noise Spectrum (SPL us A-Wt Levels).
Figure 21: ACSET 9 MSS. Elipworth AFB t0.
Figure 31: Acylot 1.0 Degreest tritanua: 100 Meters
Figure: [10]: Power: Afterburner: Temp: 48 Degrees F

FRELL 21: Measured Horse Spectrum Lavels. Location: AUF32I-9 MSS. Ellsworth AFB SD.

Station: 14 Angle: 130 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	81.9	0.0	0.0			
6.3	88.5	0.0	0.0			
- 8	92.8	0.0	0.0	97.5	24.3	80.4
10	94.7	24.3	80.4			
12.5	96.2	32.8	85.0			
16	97.4	40.7	88.9	101.7	47.8	93.7
20	97.2	46.7	91.0			
25	94.2	49.5	89.8			
31.5	93.6	54.2	90.6	99.8	62.9	97.0
40	96.7	62.1	94.7			
50	95.7	65.5	94.4			
63	90.9	64.7	90.1	97.3	69.4	96.2
80	86.0	63.5	85.5			
100	84.6	65.5	84.3		_	
125	80.1	64.0	79.9	86.4	69.1	86.1
160	76.6	63.2	76.5			
200	73.9	63.0	73.9			
250	71.6	63.0	71.6	76.7	67.6	76.7
315	63.9	52.3	68.9			
400	66.3	61.5	66.3			
500	67.0	63,8	67.0	71.3	68.1	71.3
630	56.2	64.3	66.2			
800	65.4	64.6	65.4			
1000	64.4	64.4	64.4	69.4	69.2	69,4
1250	63.8	64.4	63.8			
1600	62.2	63.1	62.0			
2000	60.5	61.7	60.3	65.7	66.8	65.5
2500	59.8	61.1	59.5			
3150	58.7	59.9	58.2			
4000	55.5	56.6	54.7	61.3	62.3	50.5
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
8000	51.5	50.4	48.5	57.6	56.2	54.3
10000	54.6	52.1	50.3			

 08SPL
 185.6 dB
 085LH = 76.7 dB(H)

 08SLC = 180.8 dB(C)
 08 dB(LH = 4.74.7

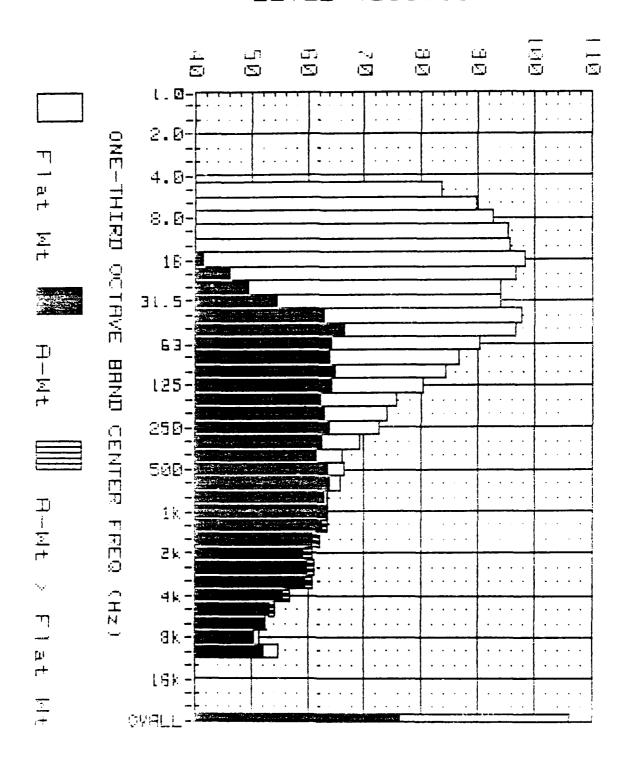


Figure 22: Measured Hoise Spectrum (SPL us A-Wt Levels).
Lecation: 3/6321-9 MSS. Ellsworth Ht8 50.
Leation: 15 dingle: 11d Begrees; Disconce: 188 Meters
Engine: F101; Power: Afterburner; Temp: 48 Degrees F

TABLE 22: Measured Hoise Spectrum Levels. Location: AVE32T-9 NSS. Ellsworth AFB SD.

Station: 15 Angle: 140 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)3
5	83.7	0.0	0.0			
6.3	89.6	0.0	0.0			
8	92.5	0.0	0.0	97.8	24.8	80.9
10	95.2	24.8	80.9	·		
12.5	95.6	32.2	84.4			
16	98.3	41.5	89.7	101.7	47.5	93.6
20	96.6	46.1	90.4			
25	94.1	49.4	89.7			
31.5	93.9	54.4	90.8	100.3	63.7	97.6
40	97.6	63.0	95.6			
50	96.7	66.5	95.4			
63	90.2	64.0	89.5	97.9	69.8	96.8
80	86.5	64.0	86.0			
100	84.1	65.0	83.8			
125	80.3	64.2	80.1	86.0	68.7	85.8
160	75.7	62.3	75.6			
200	73.9	63.0	73.9			
250	72.4	63.8	72.4	77.0	67.9	77.0
315	69.2	62.6	69.2			
400	66.3	61.5	66.3			
500	56.7	63.5	66.7	71.0	67.8	71.3
630	65.8	63.9	65.8	· · · · · · · · · · · · · · · · · · ·		
800	63.5	52.7	63.5			
1000	63.6	63.6	63.6	68.1	68.1	68.1
1250	62.9	63.5	62.9			
1600	61.2	62.2	61.0			
2000	59.6	60.8	59.4	65.1	66.2	64.9
2500	60.0	61.3	59.7			
3150	59.7	60.9	59.2			
4000	55.9	57.0	55.2	61.9	63.0	61.3
5000	53.5	54.0	52.2		·	
6300	52.5	52.4	50.5			
8000	51.5	50.4	48.5	57.9	56.5	54.6
10000	54.6	52.1	50.3			

****OUERALL LEUELS (5 - 10000 Hz)***

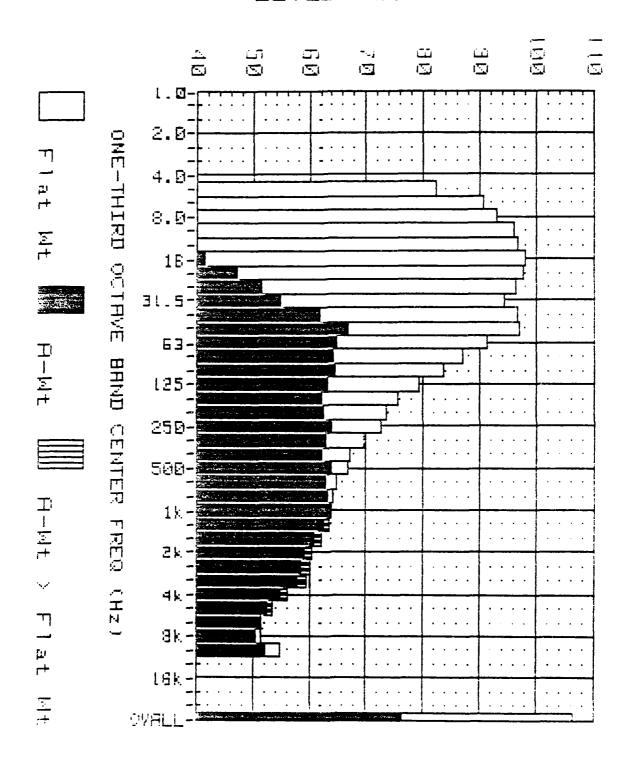


Figure 23: Measured Noise Spectrum (SPL vs A-Wt Levels).

Conation: #26321-9 MSS. Ellsworth HFB SD.

Leation: 10 Engle: 180 Degrees: Fistance: 180 Meters

Engine: f101; Power: Afterburner; Temp: 48 Degrees f

FABLE 23: Measured Horse Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 16 Angle: 150 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL CdB <c>3</c>	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	82.4	0.0	0.0			
6.3	90.5	0.0	0.0			
8	93.0	0.0	0.0	98.4	25.4	81.5
10	95.8	25.4	81.5			
12,5	96.6	33.2	85.4			
16	98.1	41.4	89.6	102.3	48.4	94.3
20	97.8	47.3	91.5			
25	96.2	51.5	91.8			
31.5	94.2	54.8	91.2	100.5	63.0	97.5
40	96.5	61.9	94.5			
50	97.1	66.9	95.8			
63	91.2	65.0	90.4	98.4	70.3	97.3
80	86.8	64.3	86.3			
100	83.5	64.4	83.2			
125	79.2	63.1	79.0	85.3	68.1	85.1
160	75.5	62.1	75.4			
200	73.6	62.7	73.6			
250	72.6	64.0	72.6	77.0	68.0	77.3
315	69.6	63.0	69.6			
400	67.1	62.3	67.1			
500	67.0	63.8	67.0	71.2	67.8	71.2
630	64.8	62.9	64.8			
800	64.1	63.3	64.1			
1000	63.7	63.7	63.7	68.4	68.3	68.4
1250	63.0	63.6	63.0			
1600	61.2	62.2	61.0			
2000	59.4	60.6	59.2	64.6	65.8	64.5
2500	58.7	60.0	58.4			
3150	58.2	59.4	57.7			
4000	55.1	56.1	54.3	60.8	61.8	60.1
5000	53.0	53.5	51.7			
6300	51.5	51.4	49.5			
8000	51.5	50.4	48.5	57.6	56.2	54.3
10000	54.6	52.1	50.3			

0ASPL = 106.3 dB UASLC = 101.5 dB(C) UASLA = 76.4 dB(A) C-A UALUE = +25.1

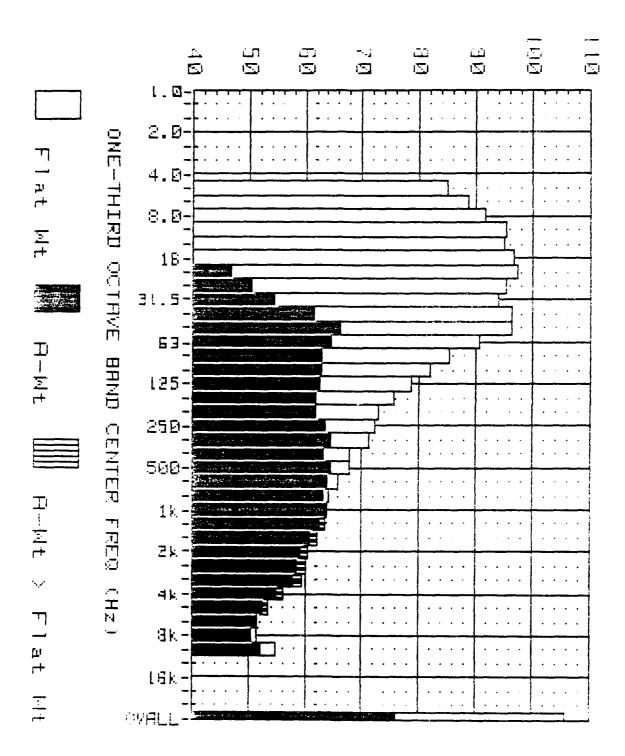


Figure 24: Measured Noise Spectrum (SPL us A-Wt Levels).
Location: A.5327-9 MSS. Ellsworth AFB 3B.
Classon: IT drys: 150 Dagrees: Distance: 188 Meters
Engine: Fld1; Power: Afterburner; Temp: 48 Degrees f

THBLE 24: Measured Horse Spectrum Levels. Location: AZF32T-9 NSS. Ellsworth AFB SD.

Station: 17 Angle: 160 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEUEL (dB)	A-MT SOUND LEVEL CdB(A)]	C-M1 SOUND FENET C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT OCTAVE BAND SL EdB(C)]
5	84.9	0.0	0.0			
6.3	88.5	0.0	0.0			
8	91.5	0.0	0.0	97.3	24.8	80.9
10	95.2	24.8	80.9			
12.5	94.9	31.5	83,7			
16	96.8	40.0	88.3	101.3	47.9	93.5
20	97.5	47.0	91.3			
25	95.3	50.6	90.9			
31.5	93.9	54.5	90.9	100.0	62.7	97.1
40	96.2	61.6	94.2			
50	96.4	66.2	95.1			
63	90.7	64.5	89.9	97.7	69.5	96.5
80	85.3	62.8	84.8			
100	81.9	62.8	81.6			
125	79.6	62.5	78.4	84.2	67.2	83.9
160	75.4	62.0	75.3			
200	72.3	61.9	72.8			
250	72.2	63.6	72.2	76.9	58.3	76.9
315	71.3	54.7	71.3			
400	68.0	53.2	68.0			
500	67.7	64.5	57.7	72.0	68.7	72.0
630	65.7	63.8	65.7			
800	64.1	63.3	64.1			
1000	63.7	63.7	63.7	68.4	68.3	68.4
1250	62.9	63.5	62.9			
1600	61.2	62.2	61.0			
2000	59.4	60.6	59.2	64.6	65.8	64.5
2500	58.7	60.0	58,4			
3150	58.2	59.4	57.7		<u>-</u>	
4000	<u>55.1</u>	56.1	54.3	60.8	61.8	60.1
5000	53.0	53.5	51.7			
6300	51.5	51.4	49.5			
8000	51.5	50.4	18.5	57.6	56.2	54.3
10000	54.6	52.1	50.3			

OUERALL LEVELS (5 - 10000 Hz)

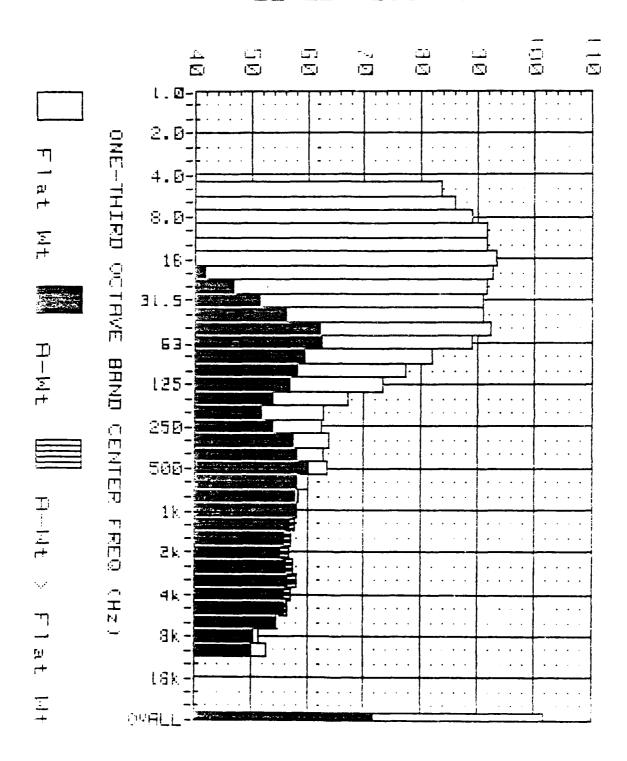


Figure 25: Measured Noise Spectrum (SPL os A-Wt Levels).
Location: A F321-9 MSS. Elisworth BFB 5B.
Location: Congres F20 Degrees: Distance: 100 Materi
Engine: F181: Power: Afterburner: Temp: 48 Degrees F

InBLE 25: Measured Horse Spectrum Levels.
Location: AVF32T-9 NSS, Ellsworth AFB SD.

Station: 18 Angle: 170 Degrees: Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(A)]	CAB(C)) CAB(C)) C-MT	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT OCTAVE BAND SL CdB(C)]
5	83.5	0.0	0.0			
6.3	85.9	0.0	0.0			
8	88.9	0.0	0.0	94.2	21.3	77.3
10	91.6	21.2	77.3			
12.5	91.7	29.3	80.5			
15	93.2	36.5	84.7	97.2	43. 2	89.2
20	92.5	42.0	86.3			
25	91.6	46.9	87.2			
31.5	90.9	51.5	87.9	95.9	57.8	92.8
40	90.8	56.2	88.8			
50	92.3	62.1	91.0			
63	88.8	62.6	88.0	94.2	66.4	93.1
80	81.9	59.4	81.4			
100	77.3	58.2	77.0			
125	73.1	57.0	72.9	79.0	61.5	78.7
160	67.2	53.8	67.1			
290	52.8	51.9	62.8			
250	62.4	53.8	62.4	67.9	59.8	67.9
315	64,0	57.4	64, <u>n</u>			
400	63.0	58.2	63.0			
500	63.4	60.2	63.4	67.2	63.8	67.2
630	60.2	58.3	60.2			
800	58.6	57.8	58.6			
1000	58.0	58.0	58.0	62.7	62.6	62.7
1250	57.2	57.8	57.2			
1600	56.2	57.2	56.1			
2000	55.4	56.7	55.2	60.8	62.0	60.6
250 0	56.4	57.7	56.1			
3150	56.9	58.1	56.4			
4000	56.1	57.1	55.3	61.1	62.1	60.3
5000	56.1	56.6	54.8			
6300	54.5	54.4	52.5			
8000	51.6	50.5	48.6	57.9	56.9	55.0
10006	52.7	50.2	48.3			

OASPL = 101.7 dBOASLC = 96.9 AB(C)

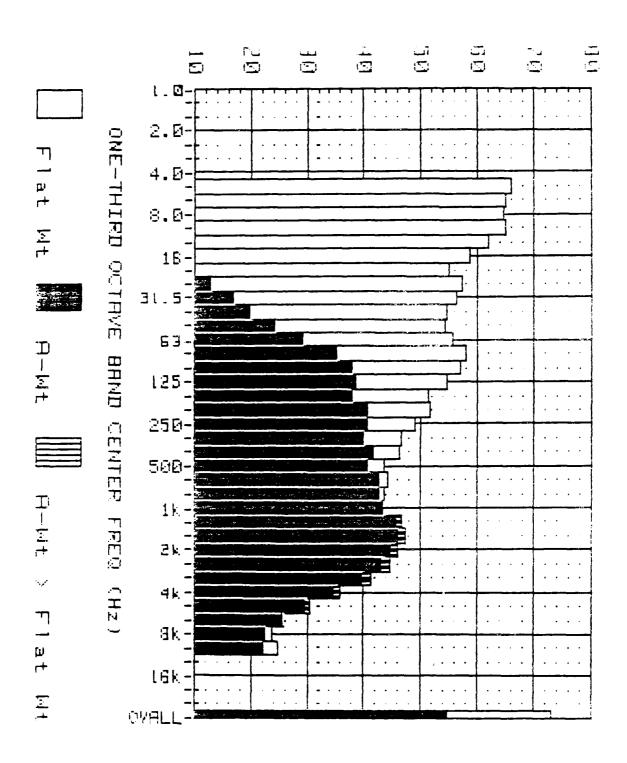


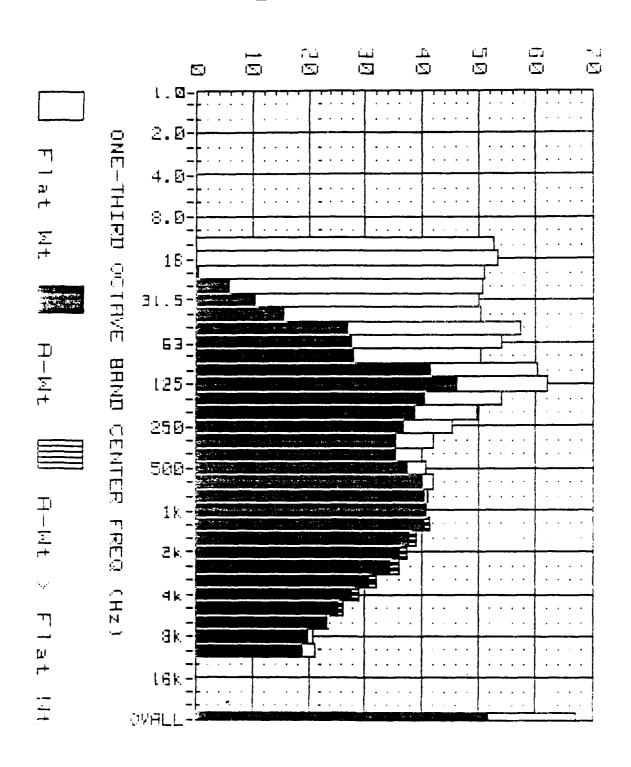
Figure 26: Measured Noise Spectrum (SPL vs A-Wt Levels).
Tucation: HAF32I-9 NSS. Ellsworth HFB SD.
Tation: O Engle: O Degrees: Distance: 100 Meters
Engine: (col): rower: background: (emp: 60 Degrees)

THBLE 26: Heasured Moise Spectrum Levels. Location: AVE32I-9 NSS. Ellsworth AFB SD.

Station: O Angle: O Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BANO SL EdB(C)]
5	65.8	0.0	0.0			
6.3	64.8	0.0	0.0			
8	64.7	0.0	0.0	69.5	4.8	50.5
10	64.8	0.0	50.5			
12.5	62.1	0.0	50.9			
16	58.5	1.8	50.0	64.2	7.3	54.8
20	55.0	4.5	48.8			
25	57.4	12.7	53.0			
31.5	56.2	16.8	53.2	60.9	22.1	57.6
40	54.4	19.8	52.4			
50	54.3	24.1	53.0			
63	55.5	29.3	54.7	60.9	36.6	60.2
80	57.9	35.4	57.4			
100	56.9	37.8	56.6			
125	54.5	38.4	54.3	59.6	42.8	59.3
160	51.2	37.8	51.1			
200	51.5	40.6	51.5			
250	49.0	40.4	49.0	54.3	45.1	54.3
315	46.6	40.0	46.6			
400	46.2	41.4	46.2			
500	43.7	40.5	43.7	49.7	46.3	49.7
630	44.3	42.4	44.3			
800	43.5	42.7	43.5			
1000	43.2	43.2	43.2	49.1	49.2	49.1
1250	45.8	46.4	45.8			
1600 2000	46.1 44.8	47.1	46.0	40.6	F0 0	40
2500		46.0	44.6	49.6	50.8	49.4
3150	43.1 39.9	44.4	42.9 39.4			
4000		41.1		41 5	42.5	40.0
5000	35.0 29.9	36.0 30.4	3 1 .2 29.6	41.5	42.6	40.8
6300	25.6					
8000	23.8	25.5 22.6	23.6	Z9.5	28.5	35.5
16000	24.7	22.2	20.8 20.3	43.3	20.5	26.5

OVERALL LEVELS (5 - 10000 Hz)



tigure 27: Measured Noise Spectrum (SPL us A-Wt Levels).
location: P.FIDI-9 MSS. Ellsworth HFB SD.
cotion: I angle: rd degrees; Siptance: 190 Meters
Engine: F101: Power: Background; Temp: 48 Degrees F

TABLE 27: Measured Noise Spectrum Levels.

Location: A/F32T-9 NSS. Ellsworth AFB SD. Station: 1 Angle: 10 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-M1 SOUND LEVEL C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EUB(A)]	C-WT OCTAVE BAND SL CAB(C)]
12.5	52.7	0.0	41.5			
16	53.3	0.0	44.8	57.2	4.9	48.7
20	51.0	.5	44.8			
25	50.5	5.8	46.1			
31.5	50.0	10,6	47.0	55.0	17.1	51.9
40	50.1	15.5	48.1			
50	57.2	27.0	55.9			
63	53.8	27.6	53.0	59.4	32.2	58.3
80	50.3	27.8	49.7			
100	60.4	41.3	60.1			
125	62.0	45.9	61.8	64.7	48.0	64.4
160	53.8	40.4	53.7			
200	49.5	38.6	49.5			
250	45.3	36,7	45.3	51.4	41.8	51.4
315	41.9	35.2	41.9			
490	40.0	35.2	40.0			
500	40.5	37.3	40.5	45.6	42.7	45.6
630	41.9	40.0	41.9			
800	41.0	40.2	41.0			
1000	40.7	40.7	40.7	45.5	45.5	45.5
1250	40.6	41.2	40.6			
1600	38.0	39.0	37.9			
2000	36.1	37.3	35.9	41.2	42.4	41.1
2500	34.7	36.0	34.4			L
3150	30.8	32.0	30.3			L
4000	27.8	28.8	27.0	33.4	34.4	32.5
5000	25.6	26.1	24.3			
6300	23.3	23.2	21.3			
8000	29.8	19.7	17.8	26.7	25.8	23.9
10000	21.3	19.8	16.9			

ਰਕਮਿਲੀ ਨੂੰ ਨਿਲਾਉਂ ਕੋਈ -∂HSLA = 51.3 dB(A) ⊎ASLC ~ 55.9 dB+C+ C-A VALUE = +14.0

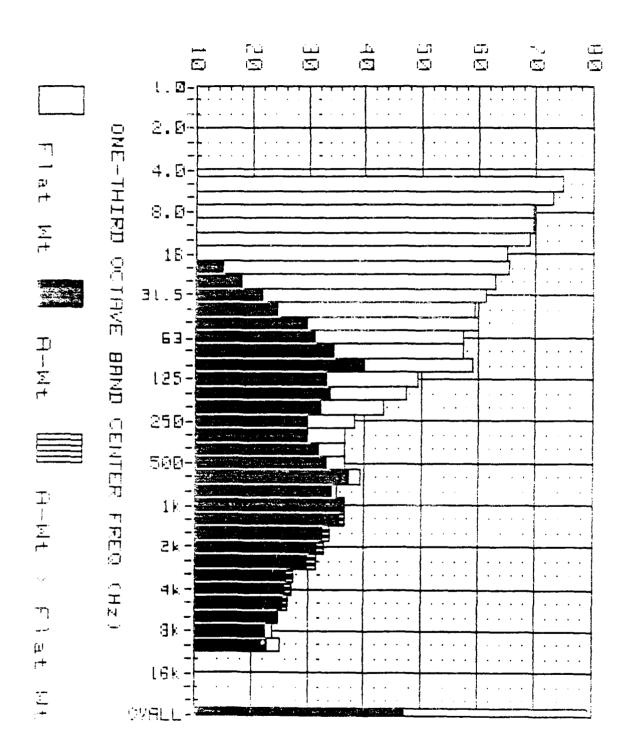


Figure 28: Measured Noise Greatrum (SPL us A-Wt Levels).

1 **Sition** Of FANCE ASI. Elloworth AFO (B).

1 **Sition** Of Manual Su Degrees; Distance: Idd Meters

Engine: FIM: Power: Background: Temp: 48 Degrees f

PARTE 28: Acaser to doise spectrum teoleis.
Location: A.F.321-9 MSS. Ellsworth AF8 SB.
Station: 3 Angle: 30 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EUB(C)]
5	74.5	0.0	0.0			
6.3	73.0	0.0	0.0			
8	69.8	0.0	0.0	75.9	4.9	55.3
18	69.6	0.0	55.3		· · · · · · · · · · · · · · · · · · ·	
12.5	68.9	5.5	57.7			
16	64.9	3.2	56.4	71.5	16.0	62.6
20	65.2	14.7	59.0			
25	62.8	18.1	58.4			
31.5	61.4	22.0	58.4	66.2	27.1	62.8
40	59.2	24.6	57.2			
50	59.9	29.7	58.6			
63	57.3	31.1	56.5	63.1	37.1	62.1
80	57.1	34.6	56.6			
100	58.9	39.8	58.6			
125	49.3	33.2	49.1	59.6	41.5	59.3
160	47.3	33.9	47.2			
200	43.2	32.3	43.2			
250	38.4	29.7	38.4	45.1	35.6	45.1
315	36.4	29.8	36.4			
400	36.6	31.8	36.6			
500	36.4	33.2	36.4	42.3	39.5	42.3
630	39.1	37.2	39.1			
800	35.1	34.3	35.1			
1000	36.6	36.6	36.6	40.7	40.7	40.7
1250	35.9	36.5	35.9			
1600	32.9	33.9	32.8			
2000	31.7	32.9	31.5	36.5	37.6	36.3
2500	30.1	31.5	29.8			
3150	26.3	27.5	25.8			
4000	26.3	27.3	25.5	31.0	31.9	30,1
5000	26.0	26.5	24.7			
6300	24.7	24.6	22.8			
2000	23.8	22.6	20.8	29.4	28.2	26.3
10000	25.2	22.7	20.8			

******* 19000 Hz)***

OHSPL = 79.4 de 08SLA = 47.2 d8(A) UNSEC = 63.2 dB(C) C-A UALUE = +21.1

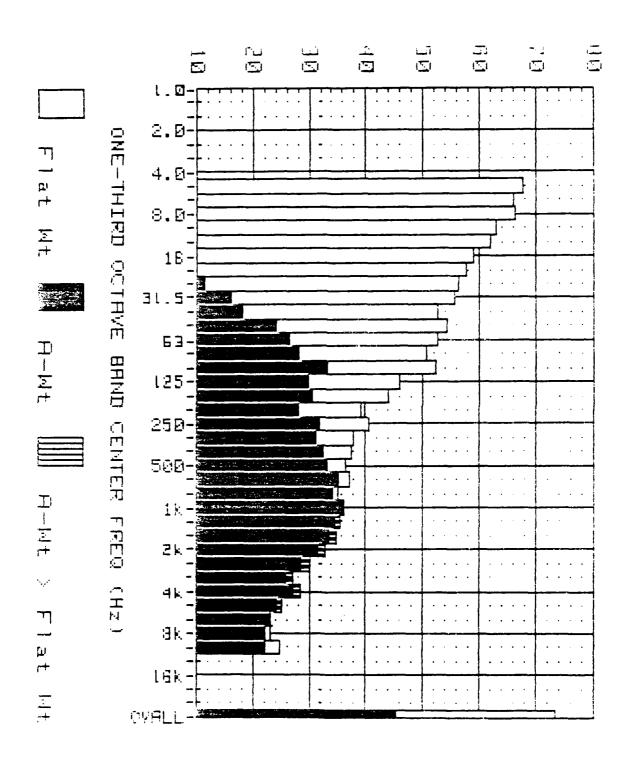


Figure 29: deasured Noise Spectrum (SPL us A-Wt Lavels). Sociation: 9.5727-9 805. Ellisworth AFB 50. (25.cm; or online, of Segrees; Sistance: 100 deters Engine: 1001: Power: Background; Temp: 48 Degrees f

TABLE 29: Heasured Horse Spectrum Levels.
Location: AVC52T-9 NSS. Ellsworth AFB SD.
Station: 4 Angle: 40 Degrees; Distance: 100 Meters

Station: 4 Angle: 40 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	R-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)]
5	67.6	0.0	0.0			
6.3	66.1	0.0	0.0			
8	66.4	0.0	0.0	70.1	_4.8	48.5
10	62.8	0.0	48.5			
12.5	61.9	0.0	50.7			
16	59.1	2.4	50.6	64.7	8.9	55.7
20	57.6	7.0	51.3			
25	56.3	11.5	51.9			
31.5	55.4	16.1	52.5	59.8	20.7	56.5
40	52.6	18.0	50.6			
50	54.3	24.1	53.0			
63	52.5	26.3	51.7	57.5	31.2	56.6
80	50.5	28.0	50.0			
100	52.2	33.1	51.9			
125	46.0	29.9	45.8	53.6	36.2	53.4
160	43.9	30.5	43.8			
200	39.2	28.3	39.2			
250	40.5	31.9	40.5	44.1	35.5	44.1
315	37.7	31.1	37.7			
400	37.5	32.7	37.5			
500	36.4	33.2	36.4	41.8	38. ć	41.8
630	37.1	35.2	37.1			
800	35.1	34.3	35.1			
1000	36.1	36.1	36.1	40.2	40.1	40.2
1250	34.9	35.5	34.9			
1600	33.9	34.9	33.8			
2000	31.7	32.9	31.5	36,7	37.9	36.6
2500	28.9	30.2	28.6			
3150	26.0	27.2	25.5			
4000	27.6	29.6	26.8	31.0	32.0	30.2
5000	24.6	25.1	23.3			
6300	23.2	23.1	21.2			
8000	23.2	22.1	20.2	28.5	27.0	25.3
10000	24.7	22,2	20.3			

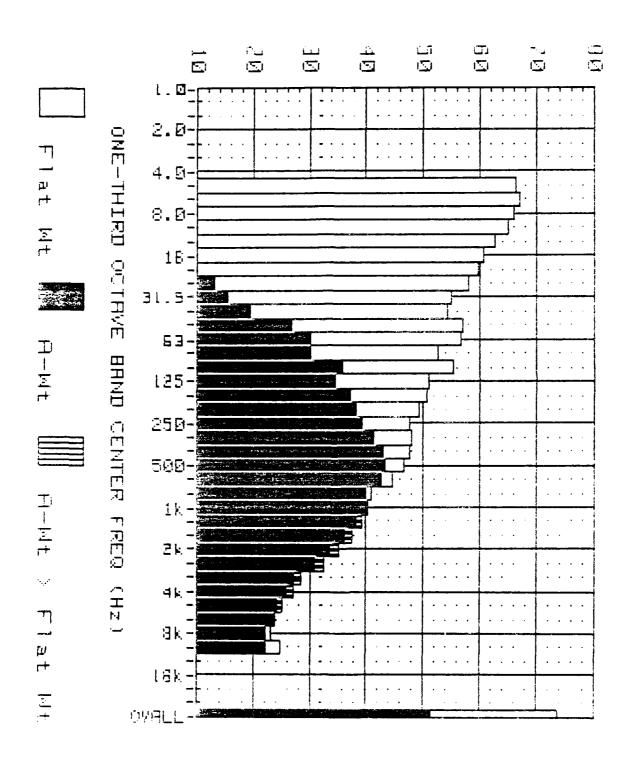


Figure 30: Measured Noise Spectrum (SPL us A-Wt Levels). Location: E. 53.1-9 HSS. Flisworth HfB 50. cts/1902 of major: 50 Degrees: Distance: (p/) Meters Engine: flO1: Power: Background: Temp: 48 Degrees F

ABLE 30: Measured moise Spectrum Levels. Location: AVF32T-9 MSS. Ellsworth MFB SD.

Station: 5 Angle: 50 Degrees: Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	66.2	Ο.υ	0.0			
6.3	67.1	0.0	0.0			
8	66.0	0.0	0.0	70.9	4.8	50.7
10	65.0	0.0	50.7			
12.5	52.7	0.0	51.5			
16	60.8	4.0	52.2	66.0	10.6	57.2
20	59.6	9.0	53.3			
25	58.0	13.3	53.6			
31.5	54.9	15.6	52.0	60.8	21.7	57.4
40	54.2	19.6	52.2			
50	57.0	26.7	55.6			
63	56.6	30.3	55.7	60.5	34.1	59.6
80	52.6	30.1	52.1			
100	55.1	36.0	54.8			
125	50.8	34.7	50.6	57.5	40.8	57.2
160	50.5	37.1	50.4			
200	49.2	38.3	49.2			
250	47.7	39.1	47.7	53.1	44.5	53.i
315	47.3	41.2	47.8			
400	47.6	42.8	47.6			
500	46.6	43.4	46.6	51.2	47.7	51.2
630	44.6	42.6	44.6			
800	40.8	40.0	40.8			
1000	40.1	40.1	40.1	44.7	44.5	44.7
1250	38.5	39.1	38.5			
1600	36.5	37.5	36.4			
2000	33.9	35.1	33.7	39.1	40.2	39.0
2500	31.0	32.4	30.7			
3150	27.3	28.5	25.8			
4000	26.3	27.3	25.5	31.0	32.0	30.2
5000	24.6	25.1	23.3			
6300	23.8	23.6	21.7			
3000	23.2	22.1	20.2	28.7	27.5	25.5
טמפמי	34.7	22.2	20.3			

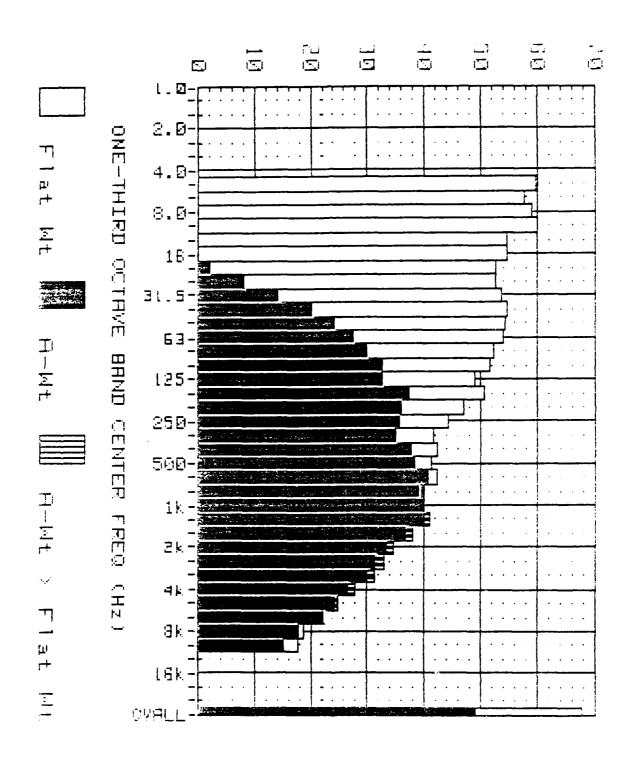


Figure 31: Measured Hoise Spectrum (SPL us A-Whitevels). Location: pdf 7/1-9 855. Elisworth #18 8D. Sharion: pdf argume 0 togrees; Uniforce: 198 Meters Engine: Fld1: Power: Background: Temp: 48 Degrees F

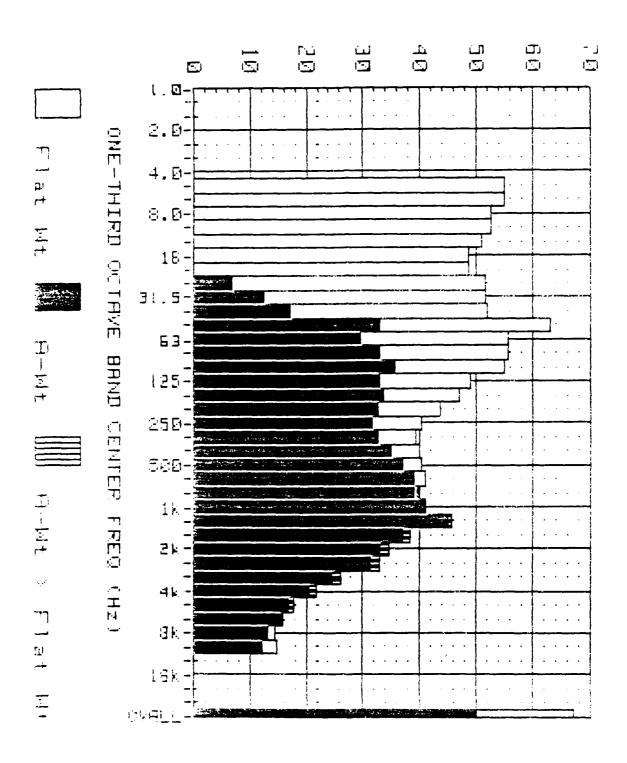
TABLE 31: Measured Noise Spectrum Levels. Location: A/F32I-9 NSS. Ellsworth AFB SD.

Station: O Angle: O Degrees: Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EUBKC>1
5	59.5	0.0	0.0			
6.3	57.6	0.0	0.0			
-8	58.9	0.0	0.0	63.7	4.8	45.5
10	59.8	0.0	45.5			
12.5	54.5	0.0	43.3			
16	54.5	0.0	46.0	58.7	5.5	50.2
20	52.5	2.0	46.3			
.25	52.7	8.0	48.3			
31.5	53.5	14.1	50.5	58.5	21.3	55.7
40	54.7	20.1	52,7			
50	54.3	24.2	53.1			
63	53.8	27.6	53.0	58.4	32.6	57.4
80	<u>52.4</u>	29.9	51.9			
100	51.7	32.6	51.4			
125	48.8	32.7	48.6	55.3	39.4	55.1
160	50.5	37.1	50.4			
200	46.8	35.9	45.8			
250	44.1	35.5	44.1	49.4	40. €	49.4
315	41.6	35.0	41.6			
400	42.4	37.6	42.4			
500	41.3	38.1	41.3	46.8	43.7	45.3
630	42.4	40.5	42.4			
800	39.6	38.8	39.6			
1000	39.6	39.6	39.6	44.6	44.5	44.5
1250	40.2	40.8	40.2			
1600	37.0	38.1	36.9			
2000	33.5	34.7	33.3	39.4	40.5	39.2
250 0	31.5	32.8	31.2			
3150	30.1	31,3	29.6			
4000	26.9	27.9	26.1	32.5	33.6	31.8
5000	24.4	24.9	23.1			
6300	22.3	22.2	20.3			
3000	19.9	17.3	15.9	24.9	3.4 3	00.3
100000	17.9	15.3	13.4			

OUERALL LEVELS (5 - 10000 Hz)

LEMEL (Decabels)



From \$2: Personed Morse Spectrom (SEL us A-Ut Levels).

Foodtron: 1.152: H.433. Flictuorin nEB 58.

Station: 1. Angle: 10 Degrees: Distance: 100 Meters

Engine: F101: Power: Background: Temp: 48 Degrees F

THBLE 52: deasured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

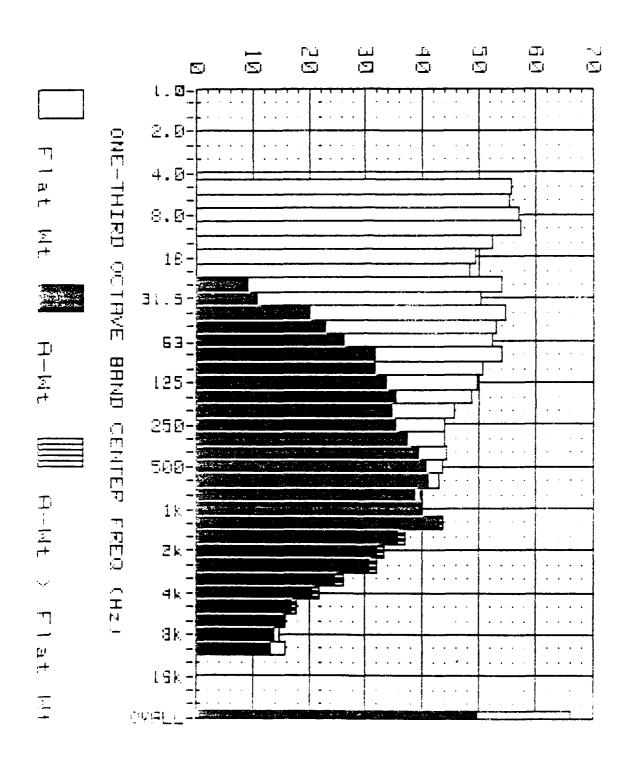
Station: 1 Angle: 10 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL Ed8(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-ML C-ML BUND ST C-ML
5	54.9	0.0	0.0			
6.3	55.1	0.0	0.0			
8	52.5	0.0	0.0	58.4	4.8	38.4
10	52.6	0.0	38.3			
12.5	51.0	0.0	39.8			
16	48.5	0.0	40.0	54.3	4.8	45.6
20	48.5	0.0	42.3			
25	51.5	6.8	47.1			
31.5	51.7	12.3	48.7	56.5	18.3	53.5
40	51.9	17.3	49.9			
50	63.1	32.0	61.8			
63	55.7	29.5	54.9	64.4	36.8	63.3
80	55.6	33.1	55.1			
100	54.8	35.7	54.5			
125	49.0	32.9	48.8	56.3	39.0	56.1
160	46.9	33.5	46.8			
290	43.6	32.7	43.6			
250	40.2	31.6	40.2	46.2	37.1	46.2
315	39.3	32.7	39.3			
400	39.3	35.0	39.8			
500	40.1	36.9	40.1	45.0	42.0	45.6
630	10.3	39.0	40.9			
800	39.6	38.9	39.6			
1000	41.0	41.0	41.0	47.3	47.6	47.3
1,250	45.1	45.7	45.1			
1600	37.3	38.4	37.2			
2000	33.2	34.4	33.0	39.5	40.6	39,4
2500	31.6	32.9	31.3			
3150	25.0	26.2	24.5			
4000	20.7	21.7	19.9	26.9	28.0	26.2
5000	17.3	17.8	16.0			
5300	15.7	15.6	13.7			
3000	14.3	13.2	11.3	19.8	18.7	15.3
19000	11.3	12.3	10.4			

00ERALL LEUELS (5 - 10000 Hz)

 OBSP! = $\pm 7.0 \text{ dB}$ OBSLA = $\pm 50.1 \text{ dB(A)}$

 OBSLS = $\pm 4.7 \text{ dB(E)}$ C-A OBLUE = ± 14.5



rigure 33: deasured Noise Spectrum (SPL us A-Wt Levels). Station: 2 Hogle: 20 Degrees; Distance: 100 Meters

Engine: fill: Power: Background: Temp: 48 Degrees f

1ABLE 55: Measured Noise Spectrum Levels.
Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 2 Angle: 20 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(8)]	C-WT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-M1 0C19AE 88MD SF CGB(C)3
5	55.7	0.0_{-}	0.0			
6.3	55.3	0.0	0.0			
8	57.1	0.0	0.0	61.4	4.8	43.1
10	57.4	0.0	43.0			
12.5	52.4	0.0	41.2			
16	49.1	0.0	40.6	55.1	4.8	46.2
20	48.4	0.0	42.2			
25	54.0	9.3	49.6			
31.5	50.1	10.7	47.1	58.1	20.9	55.2
40	54.7	20.1_	52.7			
50	53.0	22.8	51.7			
63	52.4	26.2	51.6	58.0	33.1	57.1
80	54.1	31.6	53.6			
100	50.6	31.5	50.3			
125	49.6	33.5	49.4	54.5	38.5	54.3
160	48.7	35.3	48.6			
200	45.6	34.7	45.6			
250	43.8	35.2	43.8	49.3	40.7	49.3
315	43.9	37.3	43.9			
400	44.2	39.4	44.2			
500	43.7	40.5	43.7	48.4	45.1	48.4
630	42.7	40.9	42.7			L
800	39.5	38.7	39.5			
1000	39.4	39.4	39.4	45.8	46.0	45.8
1250	43.1	43.7	43.1			
1600	35.9	36.8	35.7			
2000	32.1	33.3	31.9	38.2	39.3	38.1
2500	30.7	32.0	30.4			
3150	25.0	26.2	24.5			
4000	20.7	21.7	19.9	26.9	28.0	26.2
5000	17.3	17.8	16.0	•		
6390	15.7	15.6	13.7			
8098	14.3	13.7	11.3	20.2	19.1	1713
tooda	15.7	13.3	11.3			

******** * 1000 Hz)***

(Decibels) LEVEL

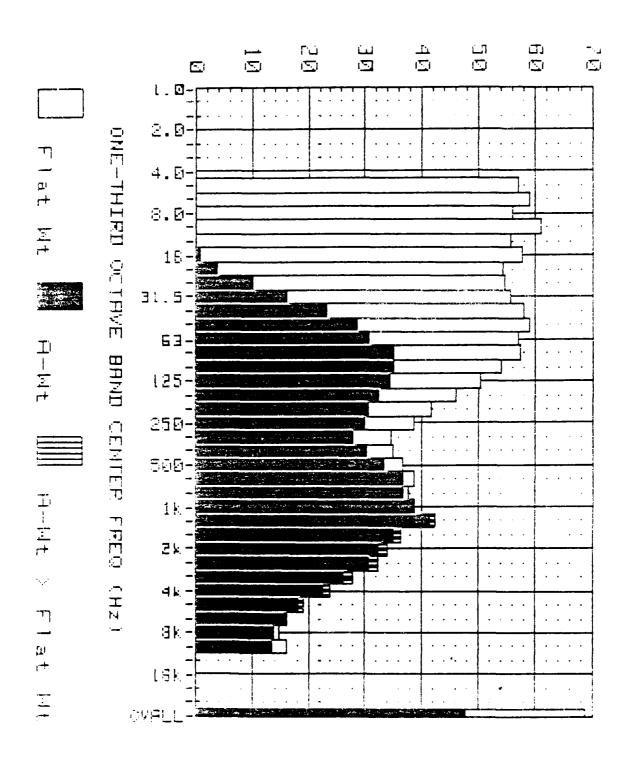


Figure 54: Measured doise Spectrom (SPL us mout topers).

See as a Community (MS), plinarity of 50.

Station: 3 Hogle: 30 Degrees: Distance: 100 Meters

Engine: f101: Power: Background: Temp: 48 Degrees F

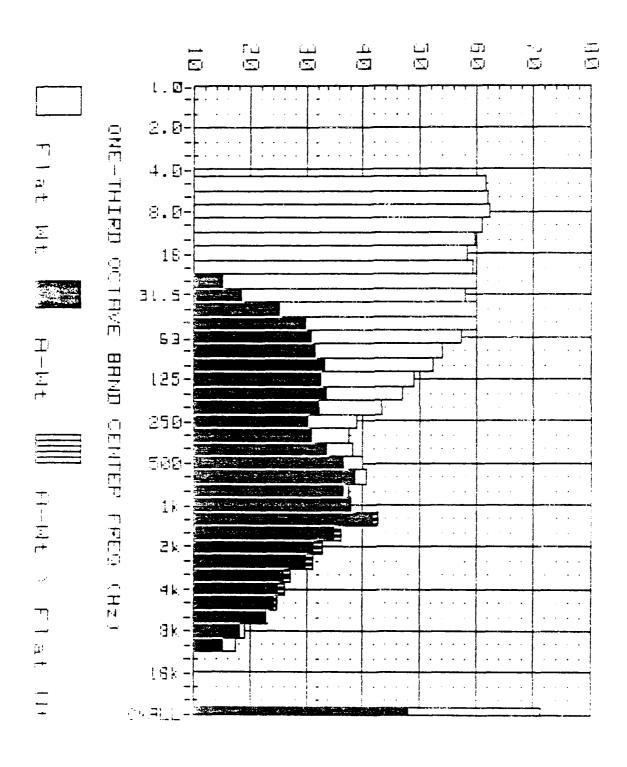
TABLE 34: Measured Horse Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 3 Angle: 30 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(B) FENEF CGB(B)	C-MT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	EGB(C)] BUND OF BUND OF E-MI
5	57.0	0.0	0.0			
6.3	58.9	0.0	0.0			
8	56.0	0.0	0.0	63.8	4.8	46.6
10	60.8	0.0	46.5			
12.5	55.6	0.0	44.4			
16	57.5	. 8	49.0	60.3	6.7	52.4
20	54.4	3,9	48.2			
25	54.7	10.0	50.3			
31.5	55.6	16.3	52.6	61.0	24.2	58.3
40	57.8	23,2	55.8			
50	58.9	28.7	57.6			
63	56.9	30.7	56.1	62.6	37.0	61.6
90	57.4	34.9	56.9			
100	53.9	34.8	53.6			
125	50.3	34.2	50.1	55.9	38.7	55.7
150	45.8	32.4	45.7			
290	41.4	30.5	41.4			
250	38.4	29.8	38.4	43.7	34.3	43.7
315	34.5	27.9	34.5			
400	35.0	30.2	35.0			
500	35.5	33.3	36,5	41.7	39.0	41.7
630	38.7	36.7	38.7			
800	37.5	36.7	37.5			
1000	38.6	38.6	38.6	44.4	44.6	44.4
1250	41.6	42.2	41.6			
1600	35.4	36.4	35.2			
2000	32.7	33.9	32.5	38.2	39.3	38.0
2500	31.0	32.3	30.7			
3150	26.6	27.8	26.1			
4000	22.7	23.7	21.9	28.5	29.6	27.9
5000	13.6	19.1	17.3			
6300	15.0	15.9	14.0			
3000	14.8	13.7	11.3	20.5	19.3	1 17 . 4
t (0m)	15.1	13.6	11.7			

apopt - 53.8 dB - 905 - 4.5 dB(40 0ASLA = 47.9 dB(A)

0 -A UALUE = +16,6



IMBLE 35: Measured Horse Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 4 Angle: 40 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(A)]	C-MT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	61.7	0.0	0.0			
6.3	62.0	0.0	0.0			
8	62.3	0.0	0,0	66.5	4.3	46.8
10	61.0	0.0	46.8			
12.5	59.5	0.0	48.3			
16	58.4	1.7	49.9	63.8	9.9	55.5
20	59.1	9.6	52.9			
25	59.8	15.1	55.4			
31.5	58.0	18.5	54.9	64.0	26.4	61.0
40	59.8	25.2	57.8			
50	60.1	29.9	58.8			
63	57.1	30.9	56.3	62.5	35.6	61.5
80	54.0	31.5	53.5			
100	52.3	33.2	52.0			
125	48.8	32.7	48.6	54.7	38.0	_54.5
160	47.0	33.6	46.9			
200	43.2	32.3	43.2			
250	B3.8	39.2	38.8	45.3	36.0	45.3
315	37.4	30.8	37.4			
400	58.3	33.5	38.3			
500	39.8	36.6	39.8	44.4	41.5	44.4
630	40.6	38.7	40.6			
800	37.4	36.6	37.4			
1000	38.0	38.0	38.0	44.3	44.5	44.3
1250	41.8	42.4	41.8			
1600	35.1	36.1	35.0			
2000	31.5	32.7	31.3	37.5	58.7	37.4
2500	30.0	31.3	29.7			
3150	26.1	27.3	25.6			
4ù00	25.0	26.0	24.2	30.0	30.9	29.2
5000	24.4	24.9	23.1			
6300	20.0	22.3	20.9			
સપ્યુપ	1/4.2	17.1	15.2	35.3	<u>. 1</u> ,	22.7
(909)	17.6	15.1	13.2			

metalet i Strateger English i Strateger 16000 Hz :+++ - 008L9 = -49, 2 (08.45) - 0 4 (00.0) = +12, 2

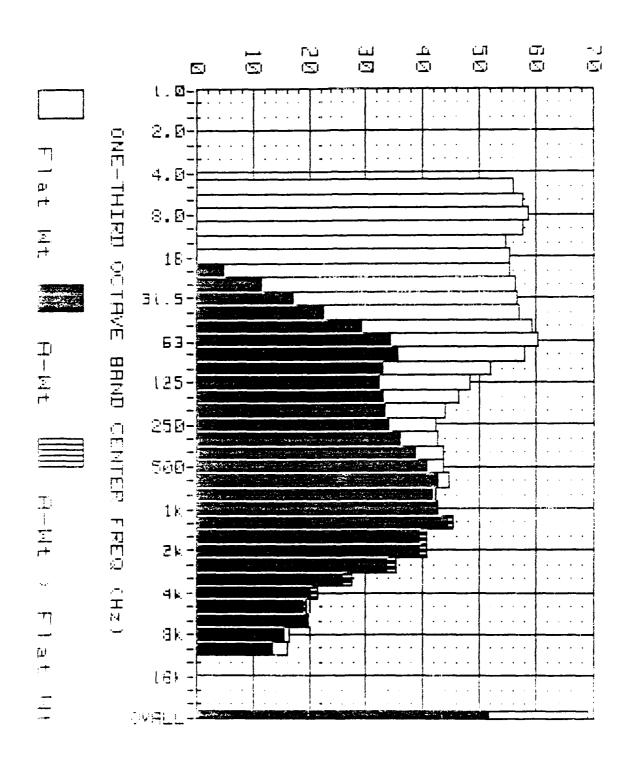


TABLE 36: Measured Noise Spectrum Levels. Location: A/F32I-9 MSS. Ellsworth AFB SD.

Station: 5 Angle: 50 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(U)] EGB(U)] EGB(U)]	C-UT SOUND LEVEL CdB <c>3</c>	OCTAVE BAND SPL (dB)	A-WI OCTAVE BAND SL CaB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	56.0	0.0	0.0			
6.3	57.7	0.0	0.0			
8	58.5	0.0	0.0	62.8	4.8	43.5
10	57.7	0.0	43.4			
12.5	54.5	0.0	43.3			
16	55.3	0.0	46.8	59.9	7.1	51.3
20	55.4	4.9	49.2			
25	56.3	11.5	51.9			
31.5	56.7	17.3	53.7	61.5	23.9	58.5
40	57.1	22.5	55.1			
50	59.4	29.2	58.1			
63	60.4	34.2	59.6	64.1	38.5	63.3
80	58.1	35.6	57.6			
100	52.0	32.9	51.7			
125	48.2	32.1	48.0	54.3	37.4	54.0
160	46.3	32.9	46.2			
200	44.0	33.1	44.0			.
250	42.4	33.8	42.4	47.8	39.2	47.8
315	42.5	35, 9	42.5			L
400	43.5	38.7	4 3.5			
500	43.7	40.5	43.7	48.7	45.6	48,7
630	44.5	42.6	44.5			li
800	42.4	41.6	42.4			
1000	42.5	42.5	42.5	48.1	48.2	48.1
1250	44.6	45.2	44.6			L
1600	39.7	40.6	39.5			
2000	39.4	40.6	39.2	43.1	44.2	42.9
2500	33.9	35.2	33.6			
3150	26.3	27.5	25.8			
4000	20.5	21.5	19.7	27.9	29.0	27.3
5000	19.2	19.7	17.9			
6300	19.9	19.8	17.9			
8009	15.5	15.4	13.5	22.5	21.9	20.0
10000	15.1	13.6	11.7			

 OHSPL = 56.9 dB
 OHSLE = 51.8 dB(e)

 OHSLE = 55.4 dB(C)
 C H OHLOE +15.5

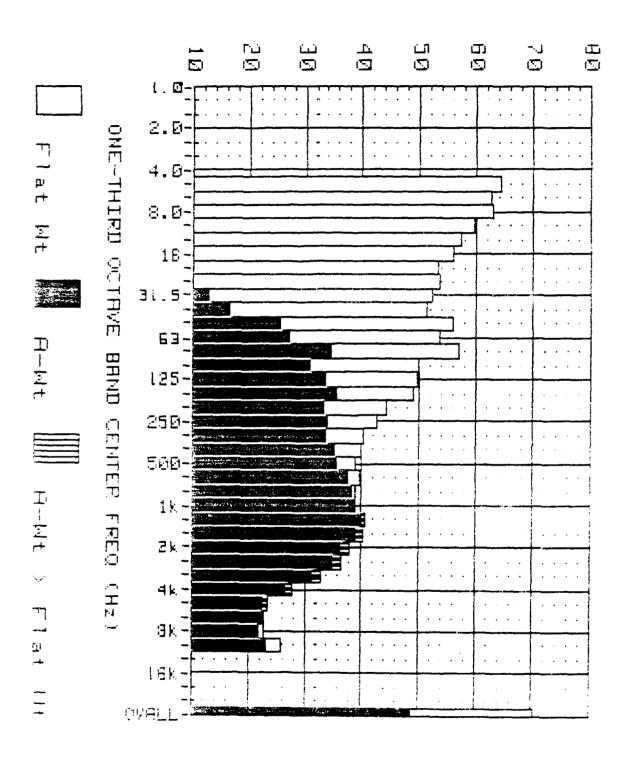


TABLE 37: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 06 Angle: 60 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	C-ML CORVO C-ML	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)3
5	64.3	0.0	0.0			
6.3	62.5	0.0	0.0			
8	63.1	0.0	0.0	66.7	4.8	45.2
10	59.4	0.0	45.1			
12.5	57.2	0.0	46.0			<u> </u>
16	56.0	0.0	47.5	60.5	5.8	51.6
20	53.1	2.6	46.9			 {
25	53.7	9.0	49.3			
31.5	52.1	12.7	49.1	57.2	18.6	54,0
40	51.2	16.6	49.2			
50	55.7	25.6	54.5			
63	53.5	27.3	52.7	60.4	35.7	59.6
80	57.0	34.5	56.5			
100	49.9	30.8	49.6			
125	49.6	33.5	49.4	54.2	38.4	54.0
160	49.3	35.4	48.7			
200	44.2	33.3	44.2			
250	42.4	33.8	42.4	47.3	38.3	47.3
315	40.1	33.5	40.1			L
400	39.8	35.0	39.8			
500	38.8	35.6	38.8	44.2	41.0	44.2
630	39.4	37.5	39.4			
300	38.9	38.1	38.9			
1000	39.0	39.0	39.0	44.1	44.2	44.1
1250	40.0	40.6	40.0			
1600	39.1	40.1	39.0			
2000	36.7	37.9	36.5	42.0	43.1	41.8
2500	35.1	36.4	34.8			
3150	31.7	32.9	31.2			
4000	26.8	27.8	26.0	33.3	34.4	32.7
5000	22.9	23,4	21.6			
<u> 6300</u>	22.7	22.5	20.7			·
3000	23.9	21.9	20.0	28.8	27.4	25.5
19000	25.8	23.3	21.4			

0000PL = 700, 3 dB 0000LC = 5.1, 5 dB(0) 08SLA = 19.0 JB(A) C A UBLUE = +13.3

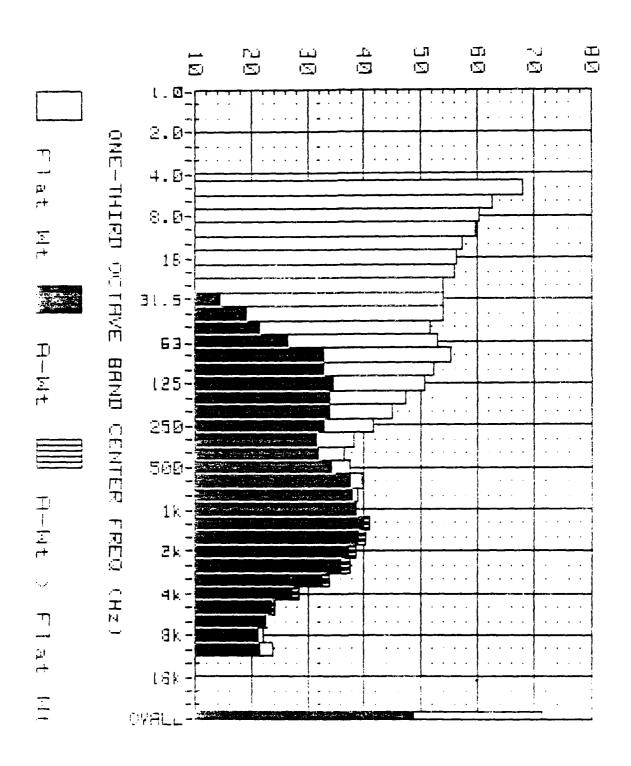


Figure 38: Meanumed Morte Spacinum (S2) as H-Wi (aders).
Foundation: 0.63%[-9.80]. Firewerth M.B. 50.
Station: 07. Angle: 70 Degrees: Distance: 100 Meters

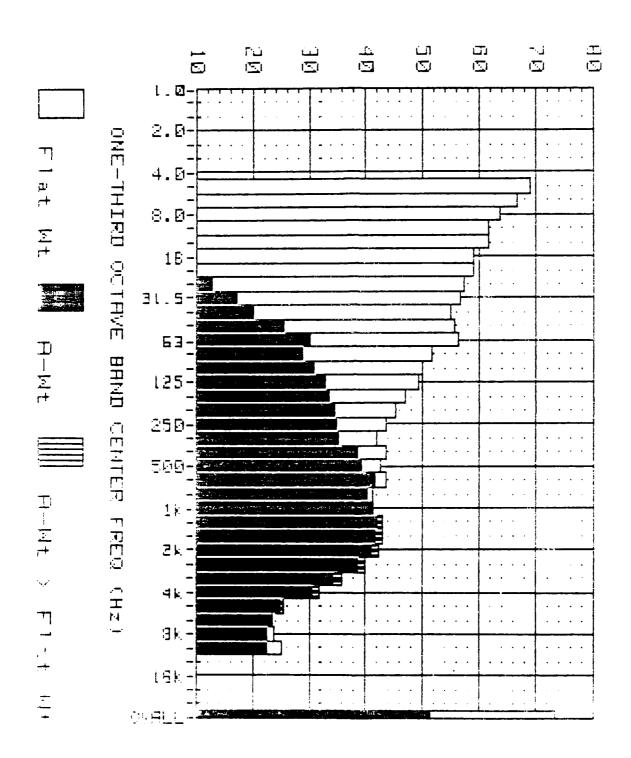
Station: 07 9ngle: 70 Degrees: Distance: 100 Meters Engine: F101: Power: Background: Temp: 48 Degrees f

TABLE 38: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 07 Angle: 70 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(V) PENET POND B-M1	C-ML C-ML C-ML	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)J	CAB(C)3 OCTAVE C-MT
5	67.8	0.0	0,0			
6.3	62.5	0.0	0.0			
- 8	60.1	0.0	0.0	65.7	4.8	45.3
10	59.6	0.0	45.3			
12.5	57.2	0.0	46.0			L
16	56.4	0.0	47.9	61.3	7.3	52.9
20	55.8	5.3	49.6			
25	53.9	9.2	49.5			
31.5	54.0	14.6	51.0	58.7	20.8	55.6
40	53.8	19.2	51.8			
50	51.5	21.3	50.3			
63	52.7	26.6	52.0	58.3	34.0	57.6
80	55.4	32.9	54.9			
100	52.1	33.0	51.8			
125	50.5	34.4	50.3	55.2	38.6	54.9
160	47.2	33.8	47.1			
200	44.8	33.9	44.8			
250	41.4	32.8	41.4	47.1	37.7	47.1
315	38, 3	31.7	38.3			
400	36.5	31.7	36,5			
500	37.6	34.3	37.6	42.8	39.9	42.3
630	39.4	37.5	39.4			.
800	38.7	37.9	38.7			
1000	33.6	38.6	38.6	44.1	44.1	44.1
1250	40.4	41.0	40.4			
1600	39.2	40.2	39.1			
2000	37.5	38.7	37.3	42.5	43.7	42.3
2500	36.1	37.4	35.8			
3150	32.8	34.0	32.3	·		
4000	27.6	28.6	26.8	34.3	35.4	33.7
5000	23.7	24.2	22.4			
6300	22.5	22.4	20.5			
8000	22.3	21.2	19.3	27.7	26.4	24.5
19000	23.9	21.4	19.5			

****OUERHEL LEUELS (5 - 10000 Hz)***



e.gure 59: "The ored House Spectrum (SPL os H-Wt Levels).

Station: 38 House: 80 Degreest Bistance: 100 Meters
Engine: (101: Power: Background: Temp: 48 Degrees F

THBLE 39: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

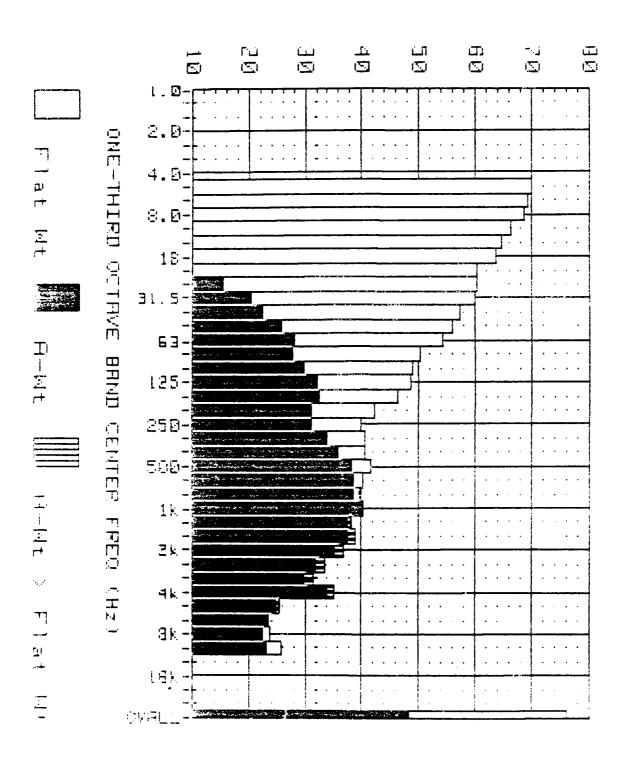
Station: 08 Angle: 80 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-AI SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE SANO SL CAB(C)]
5	69.1	0.0	0.0			
6,3	66.4	0.0	0.0			
8	63.7	0.0	0.0	69.1	4.8	47,4
10	61.7	0.0	47.3			
12.5	61.4	9.0	50,2			
16	59.0	2.3	50.5	64.7	9.8	56.0
20	58.8	8.3	52.6			
25	57.4	12.7	53.0			
31.5	56.5	17.1	53.5	61.1	22.4	57.9
40	54.8	20.2	52.8			
50	55.5	25.4	54.2			
63	56.4	30.2	55.6	59.7	33.4	58.8
80	51.5	29.0	51.0			
100	49.9	30.8	49.6			
125	49.1	_ 33,0	48.9	53.6	37.3	53.3
160	46.8	33.4	46.7			
200	45.3	31.4	45.3			
250	43.5	34.9	43.5	48.5	39.6	48.5
315	41.8	35,2	41.8			
400	43.4	38.7	43.4			
500	40.4	39.2	42.4	47.9	44.8	47.3
630	43.4	41.5	43.4			
300	41.1	40.3	41.1			
1000	41.2	41.2	41.2	46.4	46.4	46.4
1250	42.4	43.0	42.4			
1600	41.8	42.8	41.7			
2000	41.2	42.4	41.0	45.5	46.6	45.3
2500	38.7	40.0	38.4			
3150	34.7	35,9	34.2			
4000	30.8	31,8	30.0	36.5	37.6	35.3
5000	25.1	25.6	23.8			
6300	23.5	23.4	21.5			
8000	23.8	22.7	20.3	29.0	27.7	25.8
10000	25.2	22,7	20.8			

***OUERALL LEDELS (5

0HSP1 = 73.4 dP +8510 = 85.5 dBCC) 10000 Hz/###

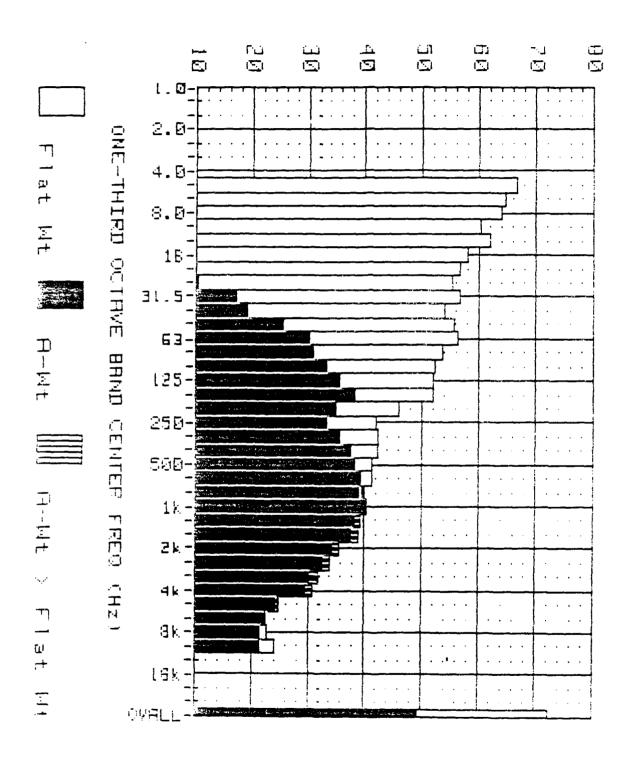
08918 = S1.5 dB(8) 0.8 UBLUE = +12.0



fABLE 90: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 09 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	EGB(U)] FENET B-ML B-ML	C-UT SOUND LEVEL EdB(C)J	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	70.1	0.0	0.0			
6.3	69.4	0.0	0.0			
-8	68.6	0.0	0.0	73.0	4.8	52.1
10	66.3	0.0	52.0			
12.5	64.7	1.4	53.5			
16	53.7	7.0	55.2	68.1	12.0	59.1
20	60.3	9.8	54.1			
25	60.1	15.4	55.7			
31.5	59.9	20.5	56.9	64.0	25.1	60.7
40	57.1	22.5	55.1			
50	55.9	25.7	54.6			
63	54.3	28.2	53.6	58.9	32.1	57.9
80	50.2	27.7	49.7			
100	<u>49.0</u>	29.9	48.7			
125	48.4	32.3	48.2	52.8	36.5	52.5
160	46.0	32.7	45.9			
290	42.2	31.3	42.2			
250	39.9	31.3	39.9	45.8	37.1	45.8_
315	40.5	33.9	40.5			
400	+0.5	35.7	40.5			
500	41.5	38.3	41.5	45.6	42.4	45.5
630	40.3	38.4	40.3			
800	39.5	38.7	39.5			
1000	40.1	40.1	40.1	44.0	43.9	44.0
1250	37.8	38.4	37.8		 _	
1600	37.8	38.8	37.7		 	
2000	35.7	36.9	35.5	40.5	41.6	40.4
2500	32.2	33.5	31.9			
3150	30.3	31.5	29.8			
4000	34.2	35.2	33.4	36.0	37.1	35.3
5000	25.1	25.6	23.8	ļ		
6300	23.5	23.4	21.5			
<u>8000</u> 19080	33.8 35.8	22.7 23.3	20.8 21.4	29.2	27.9	26.0



iABLE 41: Measured Noise Spectrum Levels.
Location: A/F32I-9 NSS. Ellsworth AFB SD.

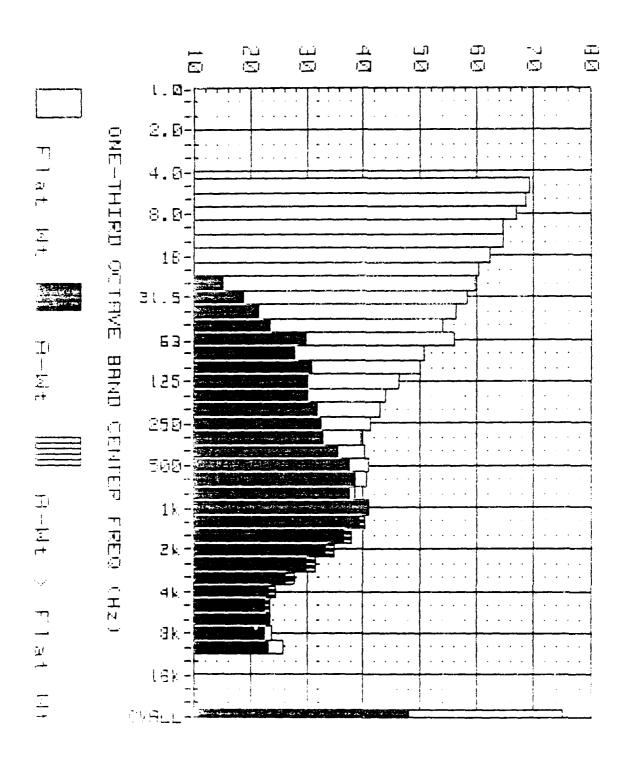
Station: 10 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F

Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	SOUND LEVEL LEVEL	C-M1 C-M1 C-M1	OCTAVE 8AND SPL (dB)	A-WT OCTAVE BAND SL EdB(A))	C-WT OCTAVE BAND SL EdB(C)]
5	66.7	0.0	0.0			
6.3	64.5	0.0	0.0			
8	63.9	0.0	0.0	68.0	4.8	46.0
10	60.3	0.0	46.0			
12.5	52.0	0.0	50.3			
16	57.9	1.2	49.4	64.3	8.1	55.0
20	56.6	6.1	50.4			
25	55.3	10.6	50.9			
31.5	<u> 56.5</u>	17.1	53.5	60.1	21.6	57.0
40	53.8	19.2	51.8			
50	<u>55.5</u>	2 5.4	54.2			
63	56.4	30.2	55.6	60.1	34.2	59.2
80	53.5	31.0	53.0			
100	52.4	33.3	52.1			
125	51.8	35.7	51.6	56.8	41.0	56.6
150	51.7	38.3	51.6			
290	45.8	34.9	45.8			
250	41.3	33.2	41.8	48.4	39.4	48.1
315	42.2	35.5	42.2			
400	32.2	37.4	42.2			
500	+1.3	38.1	41.3	46.4	43.1	45.4
630	41.1	39.2	41.1			
800	39.6	38.3	39.6			
1000	40.3	40.3	40.3	44.3	44.2	44.3
1250	38.5	39.2	38.5			
1600	37.8	38.8	37.7			
2000	34.5	35.7	34.3	40.3	41.4	40.1
2500	32.7	34.0	32.4			
3150	30.6	31.8	30.1			
4000	29.7	30.7	28.9	33.7	34.7	33.0
5000	24.4	24.9	23.1			
6,500	22.5	22.5	20.6			
3000	22.8	21.7	19.8	27.9	26.7	24.3
P1000	24.1	21.6	19.7			

 JHCRM
 V2.2 oB
 DHSER = 49.5 dReA

 3H4.0
 75.3 dB/00
 0.-8 UHLUE = 414.1



IABLE 42: Measured Hoise Spectrum Levels. Location: A/F321-9 NSS. Ellsworth AFB SD.

Station: 11 Angle: 100 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEUEL (dB)	H-UT SOUND LEVEL EAB(A)]	C-WT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT DCTAVE BAND SE EdB(C)]
5	69.2	0.0	0.0			
6.3	68.5	0.0	0.0			
88	67.0	0.0	0.0	71.8	4.8	50.4
10	64.6	0.0	50.3			
12.5	64.7	1.4	53.5	· · · · · · · · · · · · · · · · · · ·		
15	62.4	5.7	53.9	67.6	11.7	58.5
20	60.3	9.8	54.1			
25	59.7	15.0	55.3			
31.5	58.1	18.7	55.1	63.0	24.0	59.7
40	56.2	21.6	54.2			
50	53.7	23.6	52.5	<u> </u>		
63	55.9	29.8	55.2	58.7	32.6	57.8
80	50.5	28.0	50.0			
100	49.9	30.8	49.6			
125	46.3	30.2	46.1	52.2	35.2	51.9
160	43.7	30.3	43.6			
209	42.9	32.0	42.9			
250	41.2	32.6	41.2	46.2	37.3	46.2
315	39.6	33.0	39.6			
400	40.3	35.5	40.3			
500	40.8	37.6	40.8	45.3	42,2	45.3
630	40.5	38.6	40.5			
800	38.4	37.6	38.4			
1000	40.7	40.7	40.7	44.5	44.5	44.5
1250	39.7	40.3	39.7			
1600	36.8	37.8	36.7			
2000	33.7	34.9	33.5	39.1	40.2	38.9
2500	30.2	31.5	29.9			
3150	26.6	27.8	26.1			
4000	23.5	24.5	22.7	29.4	30.4	28.7
5000	22.9	23.4	21.6			
6300	23.5	23.4	21.5			
8008	23.8	22.7	29.3	29.2	27.9	25.4
16000	25.8	23.3	21.4			

985PL > 75.4 aB > 400 C > 44.2 (800)

- OASLA = -48.3 (48.6) - C 4 UALUE = •15.4

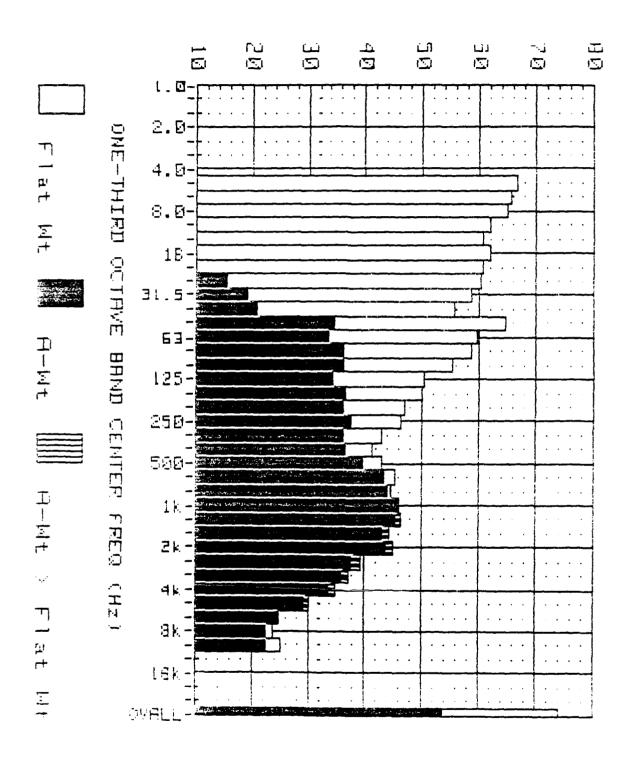


TABLE 43: Measured Noise Spectrum Levels. Location: A/F32T-9 NSS. Ellsworth AFB SD.

Station: 12 Angle: 110 Degrees: Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL EdB(A)]	C-MT SOUND LEVEL CAB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-WT OCTAVE BAND SL EdB(C)3
5	66.5	0,0	0.0			
6.3	65.7	0.0	0.0			
8	64.8	0.0	0.0	69.2	4.3	47.8
10	62.0	0.0	47.8			
12.5	60.7	0.0	49.5			
16	61.9	5.2	53.4	65.9	11.6	57.6
20	60.5	10.0	54.3			
25	60.1	15.4	55.7			
31.5	58.6	19.2	55.6	63.2	23.8	59.8
40	55.5	20.9	53.5			
50	64.7	34.5	63.5			
63	59.8	33.5	59.0	66.7	39.6	65.6
80	58.6	36.1	58.1			<u> </u>
100	55.3	36.2	55.0		<u> </u>	
125	50.2	34.1	50.0	57.4	40.6	57.1
160	50.0	36.6	19.9			
200	47.0	36.1	47.0			L1
250	46.1	37.5	46.1	50.4	41.4	50.4
315	42.8	36.2	42.8			
400	41.2	36.4	41.2			
500	42.8	39.6	42.8	48.1	45.4	48.1
630	45.1	43.2	45.1			
800	44.6	43.8	44.6			
1000	45.9	45.9	45.9	50.2	50.2	50.2
1250	45.7	46.3	45.7			ii
1600	43.1	44.1	43.0			
2000	43.8	45.0	43.6	47.0	48.1	46.8
2500	38.0	39.3	37.7			
3150	36.2	37.4	35.7			
4000	33.7	34.7	32.9	38.7	39.7	38.0
5000	29.5	30.0	28.2			
6300	24.7	24.6	22.7		L	1
9000	23.9	22.7	20.8	29.3	28.2	26.3
1 7600	25.2	22.7	20.8			

98143 97.8 48-80 C-A UALUE = +13.9

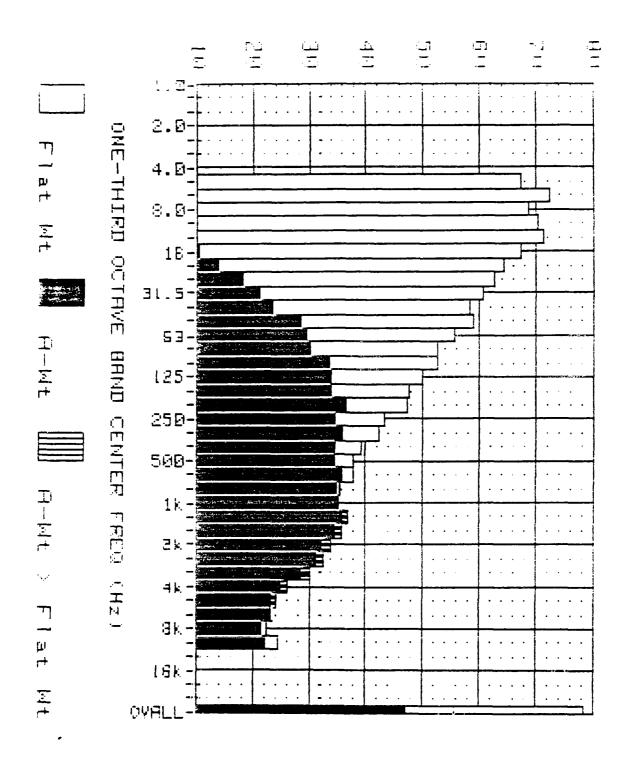


Figure 44: Measured Noise Spectrum (SPL os A-Wt Leveis). Location: A2F32F-9 NSS. Eilsworth AFB SD. Station: i3 Angle: 120 Degrees; Distance: 100 Meters Engine: Fiel: Power: Background: Temp: 48 Degrees F

THELE 44: Iracured datas Spectrum Levels. Labortion. o. 7527- 0.850. Elieworth of 6 od.

Station: 13 Angle: 120 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL CdB(A)]	CGB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-MT OCTAVE BAND SL CAB(C)]
5	67.2	0.0	0.0			
6.3	72.3	0.0	U. O			
8	68.7	0.0	0.0	75.4	4.8	55.9
10	70.2	0.0	55.9			
12.5	71.3	7.9	60.1			
16	67.2	10.5	58.7	73.3	16.1	63.8
20	64.2	13.7	58.0			
25	52.8	18.0	58.4			
31.5	60.5	21.1	57.5	65.6	26.2	62.2
40	58.2	23.6	56.2			
50	58.8	28.6	57.5			
63	55.7	29.5	54.9	61.2	34.3	60.2
80	52.7	30.2	52.2			
100	52.5	33.4	52.2			
125	49.8	33.7	49.6	55.2	38.5	54.9
160	47.4	34.0	47.3			
200	47.3	36.4	47.3			
<i>2</i> 50	43.1	34.5	43.1	49.6	40.4	49.5
315	42.3	35.7	42.3			
400	39.2	34.4	39.2			
500	37.8	34.6	37.8	43.1	39.8	43.1
630	37.9	36.0	37.9			
800	35.6	34.8	35.6			
1000	35.1	35.1	35.1	40.4	40.4	40.4
1250	36.1	36.7	36.1			
1600	34.9	35.9	34.8			
2000	32.5	33.8	32.3	37.9	33.1	37.8
2500	31,4	32.7	31.0			
3150	28.8	30.0	28.3			
4000	25.2	26.2	24.4	31.2	32.2	30.5
5000	23.6	24.1	22.3			
6300	23.2	23.1	21.2			
8000	22.6	21.5	19.6	28.3	27.1	25.2
10000	24.6	22.1	20.2			

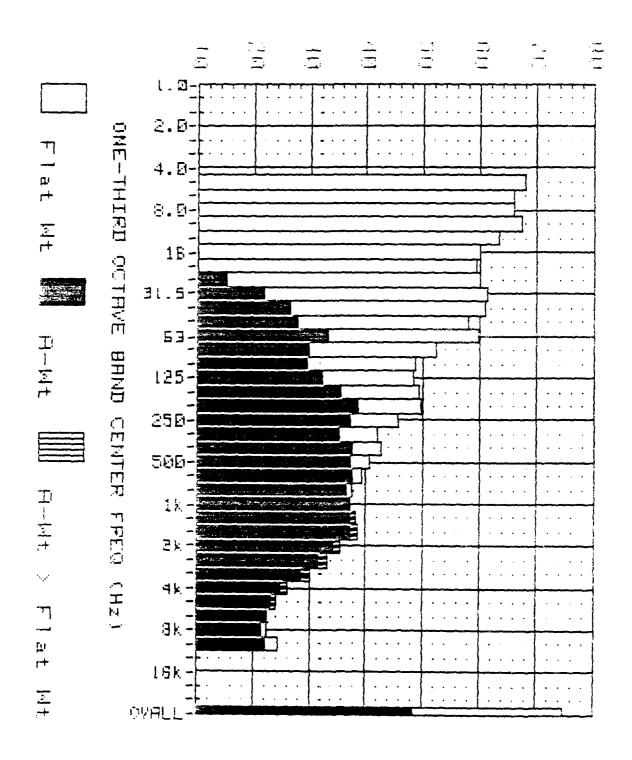


figure 45: Measured Noise Spectrom (SPL us H-Wt Levels). Sucation: E. [327-7 HSS. Ellsworth AFB SD. Station: 14 Angle: 130 Degrees: Bistance: 180 Meters [30] Degrees: Bistance:
Engine: flul; rower: Background; [emp: 48 degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)3	CGB(C)] FENET C-M1 C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-WT OCTAVE BAND SL CdB(C)]
5	68.1	0.0	0.0			
6.3	56.1	0.0	0.0			
8	66.0	0.0	0.0	71.3	4.8	53.0
10	67.3	0.0	53.0			
12.5	63.4	0.0	52.1			
16	60.0	3.3	51.5	66.0	10.2	57.0
20	59.1	9.5	52.9			
25	59.9	15.1	55.4			
31.5	61.1	21.7	58.1	65.4	27.9	62.5
40	61.0	26.4	59.ŋ			
50	57.9	27.7	56.6			
63	59.5	33.3	58.7	62.2	35.6	61.3
80	52.2	29.7	51.7			
100	48.5	29.4	48.2			
125	48.3	32.2	48.1	53.4	_38.0	53.2
160	49.1	35.7	49.0			
200	49.4	38.5	49.4			
250	45.7	37.1	45.7	51.4	41.9	51.4
315	41.8	35.2	41.8			
400	42.4	37.6	42.4			
500	40.4	37.2	40.4	45.7	42.2	45.7
630	39.3	37.4	39.3			
800	37.4	36.6	37.4			
1000	37.2	37.2	37.2	42.1	42.1	43.1
1250	37.5	38.1	37.5			
1600	37.5	38.5	37.3			
2000	34.4	35.6	34.2	39.9	41.1	39.8
2500	31.9	33.2	31.6			
3150	28.8	30.0	28.3			
4000	25.2	26.2	24.4	31.2	32.2	30.5
5000	<u>23.6</u>	24.1	22.3			
6300	22.4	22.3	20.4			
8000	22.6	21.5	19.6	28.1	26.8	24.9
10000	24.6	22.1	20.2			

GRSPL 3 74.7 48

0851 A = 48.7 (88.9)

085LC = 56.3 dB(0)

C-A UALUE = +17.6

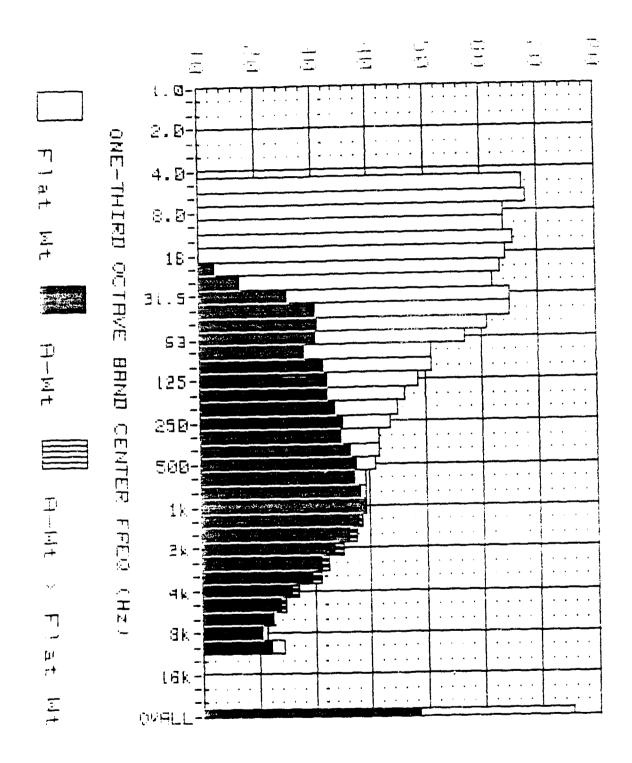
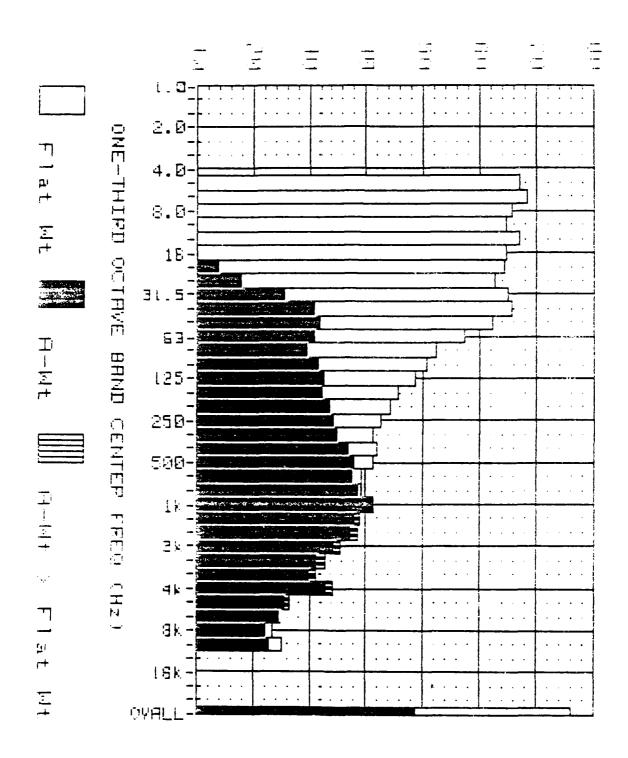


Figure 46: Measured Noise Opentrum (SPL 95 A-Wt Levels).
Foundation: ACESSI-9 MSS. Elloworth MEB 50.
Foldation: The Angle: EtO Degrees: Distance: 100 Meters
For all all Courses daubap and the mp: 45 Degrees E

.abkr to: Gesard davise protrum Levela Geography (172, -3 dr). Erlywords dlé off. Station: 15 Angle: 148 Begrees; Bistance: 100 Meters

Station: 15 Angle: 140 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)3	CGB(C)] BUND SF OCTUNE C-MI
5	67.4	0.0	0.0			
6.3	67.8	0.0	0.0			
8	64.0	0.0	0.0	70.4	4.8	49.6
10	63.9	0.0	49.6			
12.5	65.4	2.0	54.2			
16	54.4	7.7	55.9	69.3	14.3	60.7
20	53.4	12.9	57.2			
25	61.9	17.1	57.5			
31.5	65.0	25.6	62.0	69.0	31.8	66.2
40	65.1	30.5	63.1	·	· · · · · · · · · · · · · · · · · · ·	
50	60.9	30.7	59.6			<u> </u>
63	56.8	30.6	56.0	62.6	34.8	61.5
80	50.9	28.4	50.4			
100	50.9	31.8	50.6			
125	48.5	32.4	48.3	53.7	37.1	53.5
160	46.1	32.7	46.0			·
200	44.8	33.9	44.8			
250	43.7	35.1	43.7	48.3	39.5	48.3
315	41.5	34.9	41.5			
400	41.4	36.6	41.4			
500	40.9	37.7	40.9	45.3	42.0	45.3
630	39.1	37.2	39.1			
800	39.1	38.3	39.1			
1000	39.3	39.3	39.3	43.6	43.5	43.5
1250	38.1	38.7	38.1			
1600	36.6	37.7	36.5			
2000	33.9	35, 1	33.7	39.3	40.4	39.1
2500	31.4	32.7	31.0			
3150	29.8	31.0	29.3	70		
4000	26.3	27.3	25.5	32.1	33.2	31.4
5000	24.1	24.6	22.8			
6300	22.4	22.3	20.4			
8000	21.6	20.5	18.6	27.8	26.5	24.6
10000	24.6	22.1	20.2			



Tigure 47: Casured Hoise Spectrum (SPL us A-Wt Levels). Cocation: HZE32I-9 MSS. Ellsworth AFB SU. Station: In Angle: 158 Begrees: Distance: 188 Meters (1981) (1982) (1982) (1983)

dep. 1': 1: dependence apendam cenei..

Lation: 15 days: 150 Begreest Distance: 100 deter.

Engine: f[0]: Power: Background: [emp: 48 Degrees]

Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL CdB <c>1</c>	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT OCTAVE BAND SL EdB(C)]
5	55.9	0.0	0.0	`		
6.3	68.4	6.0	9.0			
8	65.5	0.0	0.0	71.2	4,8	50.2
10	64.5	0.0	50.2			
12.5	66.8	3.4	55.6			
16	54.7	8.0	56.3	70.2	15.1	61.6
20	64.3	13.8	58.1			
25	62.5	17.7	58.1			
31.5	64.9	25.4	61.8	69.2	32.2	66.5
40	65.6	31.0	63.6			
50	62.2	32.0	60.9			
63	57.1	30.9	56.3	63.7	35.7	62.6
80	52.1	29.6	51.6		<u> </u>	
100	50.6	31.5	50.3			
125	48.6	32.5	48.4	53.5	36.9	53.3
160	45.7	32.3	45.6			
200	44.3	33.4	44.3			
250	42.7	34.1	42.7	47.7	38.9	47.7
315	41.3	34,7	41.3			
400	41.7	36.9	41.7			
500	41.1	37.9	41.1	45.6	42.2	45.5
630	39.3	37.4	39.3			
900	39.3	38.5	39.3			
1800	41.1	41.1	41.1	44.5	44.4	44.5
1250	38.4	39.0	38.4			
1600	37,5	38.5	37.3			
2000	34.3	35.5	34.1	39.9	41.0	39.7
2500	31.7	33.0	31.4			
3150	30.0	31.2	29.5			
4000	33.2	34.2	32.4	35.4	36.4	34.6
5000	26.0	26.5	24.6			
6300	24.4	24.3	22.4	,		
8000	23.4	22.3	20.4	29.2	28.0	26.1
10000	25.2	22.7	20.8			

Carrie 76.0 .8 **9ASLA ≈** 49.0 a8(a) Helit - 63.1 dB(i) C-A UALUE = +20.1

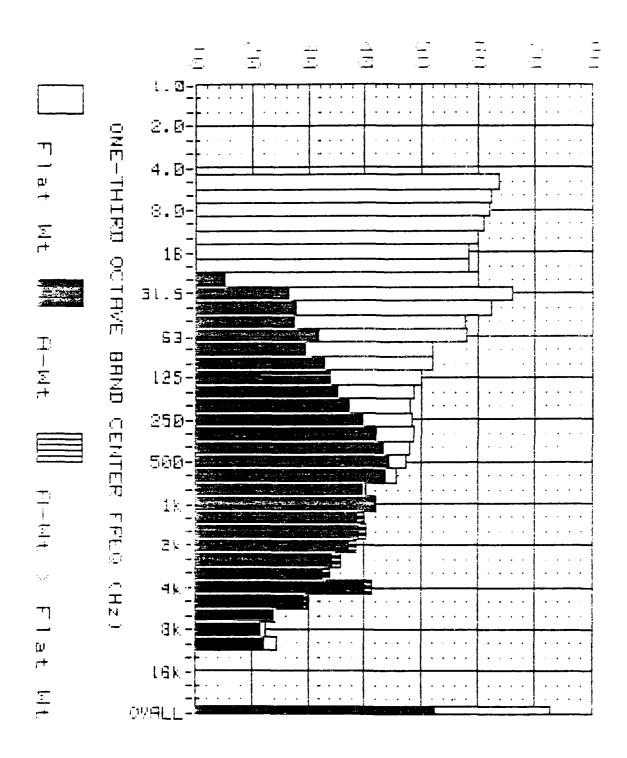


Figure 48: Measured Noise Spectrum (SPE us H-Wt Levels).

Libertain: (A.E.A.E.-9 MSS. Ellisworth HEB SD.

Staffin: 17 angle: 160 Degrees: Distance: 160 Meters

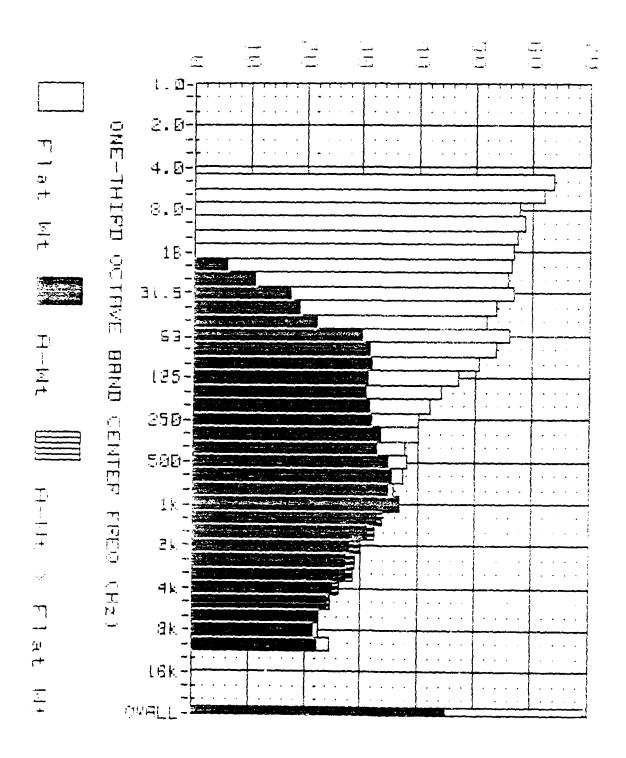
Est of a control who: Background: Temp: 48 degrees E

Induc 18: The control operation Levels.

Long the control of the c Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL CdB(A)]	CGB(C)] FENET C-M1	OCTAVE BAND SPL (dB)	A-WI OCTAVE BAND SL EdB(A)]	CGB(C)] BUND ST OCTUNE C-MI
5	53.7	0.0	0.0			
6.3	62.4	0.0	0.0			
8	62.0	9.0	0.0	66.6	4.8	46.5
10	60.8	0.0	46.5			
12.5	60.1	0.0	48.9			
16	58.3	1.6	49.8	63.8	9.3	55.3
20	58.4	7.9	52.2			
25	60.0	15.2	55.6			
31.5	65.8	26.4	62.8	68.1	30.3	65.2
40	62.4	27.8	60.4			
50	57.6	27.4	56.3		·	
63	57.9	31.7	57.1	61.3	34.6	60.3
80	51.9	29.4	51.4			
100	51.9	32.8	51.6			
125	49.8	33.7	49.6	55.1	38.8	54.9
160	48.6	35.2	48.5			
200	18.0	37.1	48.0			
250	48.1	39.5	48.1	53.0	44.8	53.0
315	48.6	42.0	48.6			
400	47.9	43.1	47.9			
500	47.3	44.1	47.3	51.8	48,4	51.3
630	45.4	43.5	45.4			
800	40.3	39.5	40.3			
1000	41.8	41.8	41.8	45.3	45.2	45.3
1250	39.0	39.6	39.0			
1600	39.1	40.1	39.0			
2000	37.4	38.7	37.2	42.2	43.3	4 2.0
2500	34.6	35.9	34.4			
3150	32.8	34.0	32.3			
4000	40.1	41.1	39.3	41.1	42.1	40.3
5000	29.4	29.9	28.1			
6300	23.8	23.7	21.8			
8000	22.6	21.5	19.6	28.5	27.3	25.4
10000	24.6	22.1	20.2			

0ASER = 52.5 ABCAD



Commun 1997 - Measured House Spectrum (CPE, as a Wi Lavels).

Heatings - H.1321-3 ASS, Ellisworth HEB SB.

Heatings - Heatings 170 Degrees: Wistamper Hyd Meters

Heatings - Heatings - House Heatings - House 43 degrees.

. Which will be a considered that the period of the constant α . The constant α

ctation: 13 dagge: 170 degreest Distance: c00 meters
Engine: f101; Power: Background; femp: 48 Degrees f

Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	CGB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)3	C-WT OCTAVE BAND SL EdB(C)1
5	53.8	0.0	0.0			
6.3	62.1	0.0	0.0			
. 8	57.6	9.0	0.0	64.6	4.8	44.2
10	58.5	0.0	44.2			
12.5	57.3	0.0	46.0			
16	56.8		48.3	61.6	7.7	53.3
20	56.4	5.9	50.2			
25	55.6	10.9	51.2			
31.5	55.7	17.3	53.7	60.2	21.5	57.1
<u>40</u>	53.6	19.0	51.6			
50	52.1	21.9	50.8			L
63	56.1	29.9	<u>55.3</u>	59.1	33.9	58.2
80	53.7	31.2	53.2			
100	50.7	31.6	50.4			
125	46.8	30.7	46.6	52.8	35.7	52.5
160	43.9	30.5	43.8			
200	1 2.9	31.1	42.0			
250	40.0	31.4	40.0	45.5	36.8	45.5
315	39.8	33.2	39.8			
100	37.4	32.6	37.4			
500	37.8	<u> 34.6</u>	37.8	42.2	39.1	42.2
<u>630</u>	37.2	35.3	37.2			
300	35.5	34.7	35.5			
1000	36.6	36.6	36.5	40.0	39.9	40.0
1250	32.9	33.5	32,9			
1600	31.4	32.4	31.3			
2000	28.3	29.5	28.1	34.2	35.3	34.0
2500	27.6	23.9	27.3			
3150	27.4	23.6	26.9			
4000	25.2	26.2	24.4	30.6	31.5	29.8
5000	24.1	24.6	22.8			
6300	22.4	22.3	20.4			
8000	22.6	21.5	19.6	28.1	26.8	24.9
19900	24.6	22.1	20.2			

5175 - 59.5 aB

o∺SLA - 45.4 JB<A -

96 15 5 60 3 aB (0)

C-A UALUE = +15.3

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APPENDIX D

Stage 2 (Run 3) 1/3 Octave Band Data

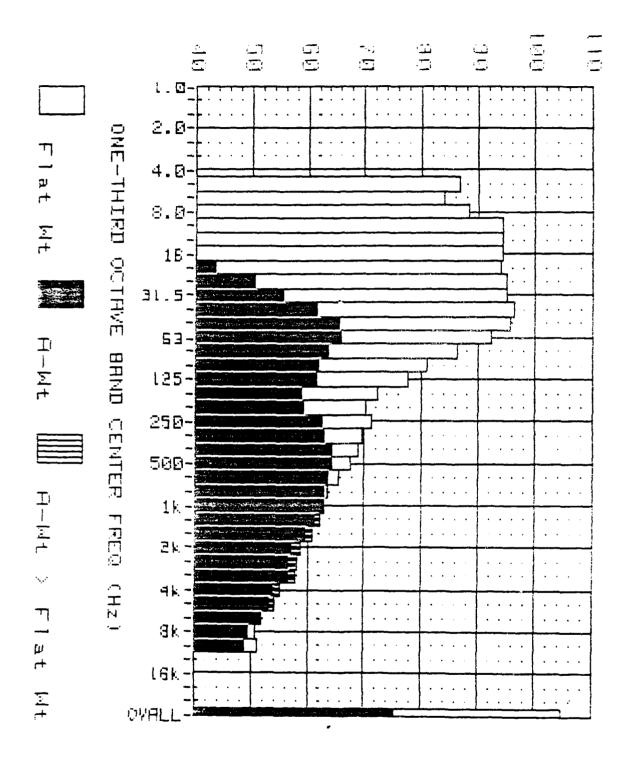


Figure 1: Measured Noise Spectrum (SPL vs A-Wt Levels). Location: Arf32I-9 MSS. Ellsworth AFB SD. Station: 5 Angle: 50 Degrees: Distance: 100 Meters Logine: Flot: Power: Afterburner: Temp: 48 Degrees F

Station: 5 Angle: 50 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(R)]	C-WT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT OCTAVE BAND SL EdB(C)]
5	36.6	0.0	0.0			
6.3	83.8	0.0	0.0			
8	88.2	0.0	0.0	95.6	24.0	80.1
10	94.4	24.0	80.1			
12.5	94.2	30.8	83.0			.,
16	94.3	37.6	85.8	98.9	44.7	90.7
20	94.1	43.6	87.9			
25	95.1	50.4	90.7			
31.5	94.8	55.4	91.8	100.2	62.9	97.3
40	96.3	61.7	94.3			
50	95.6	65.4	94.3			
63	92.2	66.0	91.4	97.5	69.9	96.5
80	86.2	63.7	85.7			
100	81.0	61.9	80.7			
125	77.5	61.4	77.3	83.0	65.6	82.7
160	72.1	58.7	72.0			
200	70.2	59.3	79.2			
250	71.1	62.5	71.1	75.1	66.6	75.1
315	69.5	62.9	69.5			
400	68.9	64.1	68.9			
500	67.4	64.2	67.4	72.3	68.7	72.3
630	65.4	63.5	65.4			
800	63.6	62.8	63.6			
1000	62.7	62.7	62.7	67.4	67.3	67.4
1250	61.4	62.0	61.4			
1600	59.9	60.9	59.8			
2000	57.6	58.8	57.4	63.1	64.2	62.9
2500	57.0	58.2	56.7			
3150	56.7	57.9	56.1			
4000	54.1	55.1	53.3	59.8	60.7	59.0
5000	53.5	54.0	52.2			
6300	51.7	51.6	49.7			
8000	50.8	49.6	47.8	56.0	. 55.0	53.1
10000	51.2	48.7	46.9			

089PL = 104.5 dB 08SLC = 100.5 dB<C> OASLA = 75.7 dB(A)

€-A UALUE = +24.9

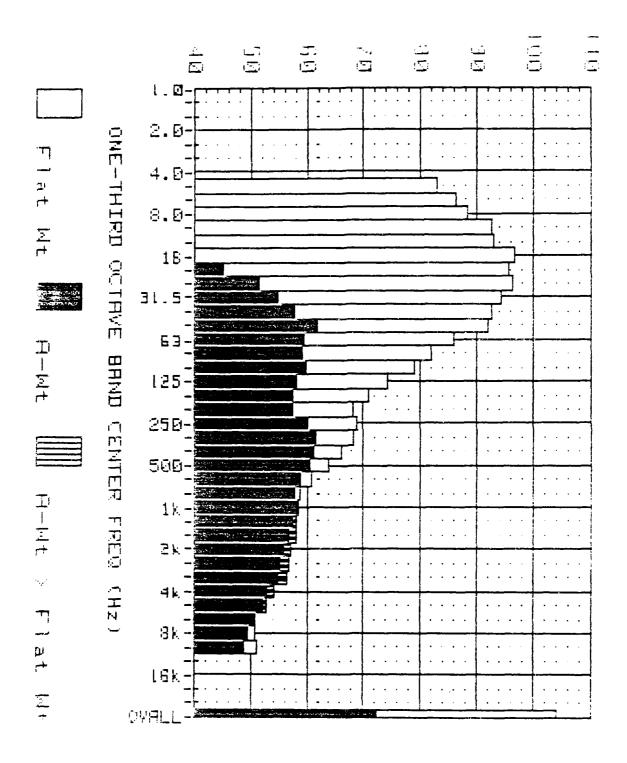


figure 2: Measured Moise Spectrum (SPL vs A-Wt Levels).
Location: H. 6321-9 HSS. Ellisworth AFB 3D.
Patien: o ingle: 60 Degrees: Distance: 160 Meters
Lagine: Ff.: Power: Hiterburner; Temp: 46 Degrees F

Location: https://en.doi.org/apect/com/lavels. Location: https://en.doi.org/apect/com/lavels.

Station: 6 Angle: 60 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL CdB(E)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)3	C-WT OCTAVE BAND SL EdB(C)]
5	83.0	0.0	0.0			
6.3	86.3	0.0	0.0			
8	88.3	0.0	0.0	94.7	22.3	78.3
10	92.6	22.2	78.3		_	
12.5	92.8	29.4	81.6			
16	96.5	39.8	88.0_	100.0	46.4	92.2
20	95.7	45.2	89.5			
25	96.3	51.6	91.9			
31.5	94.4	55.0	91.4	99.4	60.3	96.1
40	92.5	57.9	90.5			
50	92.1	61.9	90.8	·		
63	85.8	59.6	85.1	93.3	65.2	92.2
80	81.8	59.3	81.3			
100	78.9	59.8	78.6			
125	74.3	58.2	74.1	80.7	63.4	80.4
160	71.0	57.6	70.9			
290	68.3	57.4	68.3			
250	68.8	60.2	68.8	73.2	64.8	73.2
315	58.2	61.5	68.2			
400	56.1	61.3	66.1			
500	53.8	60.6	63.8	68.9	65.2	68.9
630	60.9	59.0	60.9			
800	58.7	57.9	58.7			
1000	58.4	58.4	58.4	63.1	63.0	63.1
1250	57.7	58.3	57.7			
1600	57.1	58.1	57.0			
2000	56.0	57.2	55.8	61.0	62.1	60.8
2500	55.3	56.6	55.0			
3150	55.1	56.4	54.6			
4000	53.0	54.0	52.2	58.4	59.4	57.7
5000	52.4	52.8	51.1			
6300	50.8	50.6	48.7			
8000	50.8	49.6	47.8	55.7	54.5	52.6
10000	51.2	48.7	46.9	•		

****OUERALL LEUELS (5 - 10000 Hz)***

085Pt = 103.9 dB

08SLA = 70.5 d8<4>

UASEC = 98.8 dB(C)

C-A 9ALUE = +26.3

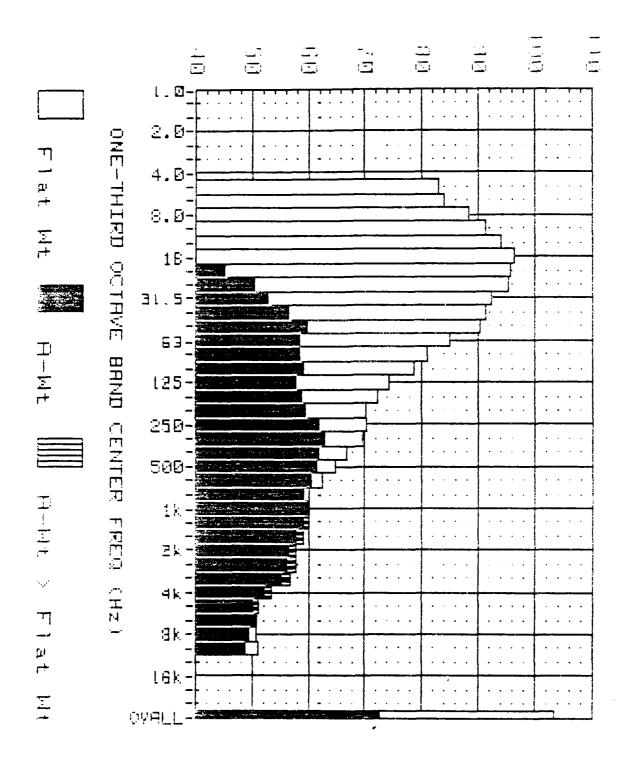


Figure 3: Measured Noise Spectrum (SPL us A-Wt Levels).

**Scation: B.F32I-9 NSS. Elisworth AFR 3D.

**Sation: T. Moule: 70 Degrees: Distance: 130 Meters

**Logine-175: Fower: Hiterograph: 18 Degrees i

THREE : Indicate and the Spectrum Levels. Location: HTS2I-9 HSS. Ellsworth hf8 Sb.

Station: 7 Angle: 70 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)]
5	82.8	0.0	0.0			
6.3	84.1	0.0	0.0			
8	98.3	0.0	0.0_	93.6	21.1	77.1
10	91.4	21.0	77.1			
12.5	94.0	30.6	82.8			
16	96.3	39.6	87.8	100.2	46.4	92.3
20	95.8	45.3	89.5			
25	95.3	50.6	90.9			
31.5	92.3	52.9	89.3	98.1	58.8	94.6
40	91.2	56.6	89.2			
50	90.1	59.9	88.8			<u> </u>
63	84.8	58.6	84.0	91.6	63.8	90.5
80	81.0	58.5	80.5			
100	78.4	59.3	78.1			
125	74.1	58.0	73.9	80.5	63.5	80.2
160	72.3	58.9	72.2			
200	70.3	59.4	70.3			
250	79.3	61.7	70.3	74.9	66.4	74.9
315	63.6	63.0	69.6			
400	55.8	52.0	66.8			
500	64.9	51.7	64.9	69.8	56.2	69.3
630	52.5	60.6	62.5			
800	60.0	59.2	60.0			
1000	50.0	60.0	50.0	64.6	64.6	54.5
1250	59.5	60.1	59.5			ii
1600	58.2	59.2	58.1			
2000	56.7	57.9	56.5	62.0	63.1	61.8
2500	56.5	57.7	56.1			
3150	55.4	56.7	54.9			
4000	52.4	53.4	51.6	58.0	59.1	57.3
5000	50.5	51.0	49.2			
6300	50.8	50.6	48.7			
8000	50.8	49.6	47.8	55.7	54.5	52.5
10000	51.2	48.7	46.9			

***OVERALL LEVELS (5 - 19090 Hz ***

0HSPL = 103.2 dB 0ASLC = 97.7 dB(C) 08988 = 73.0 d8699 C-A 08LUE = +24.7

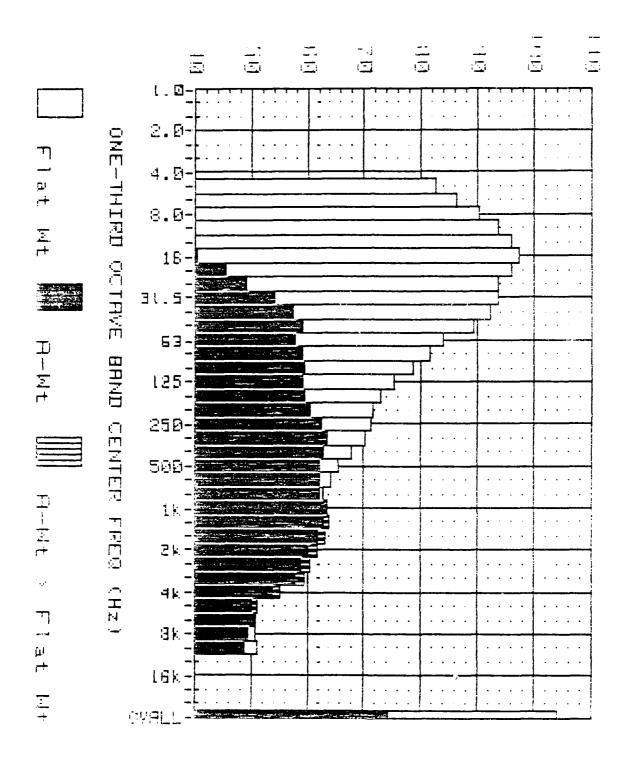


Figure 4: Measured Hoise Spectrum (SPL us A-Wt Levels).
Emparion: 6.0321-9 MSS. Ellowerth MFB SD.
Farious model 30 Degrees: Obstance: 180 Memory Squires: 1931: Mower: Afterpurper: Temps to begrees for

The Control of Solve ASS. Elismorth AFS SU.

Station: 8 Angle: 80 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL EdB <c>3</c>	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAUE BAND SL EdB(C)]
5	82.6	0.0	9.0			
6.3	86,2	0.0	0.0			
8	90.2	0.0	0.0	95.7	23.1	79.2
10	93.5	23.1	79.2			
12.5	96.1	32.7	84.8			
16	97.3	40.6	38.8	101.3	46.9	93.1
20	96.1	45.6	89.9			
25	93.7	49.0	89.3			
31.5	93.6	54.2	90.6	98.0	59.6	94.8
40	92.2	57.6	90.2			
50	89.3	59.1	88.0			
63	83.9	57.7	83.1	90.9	63.5	89.9
80	81.6	59.1	81.1			
100	78.6	59.5	78.3			
125	75.2	59.1	75.0	81.0	64.1	80.7
160	72.8	59.4	72.7			
200	71.4	60.5	71.4			
250	71.2	62.6	71.2	75.7	67.2	75.7
315	70.3	63.7	79.3			
400	57.7	62.9	67.7			
500	55.4	52.2	65.4	70.8	67.2	70.8
630	64.1	62.2	64.1			
800	62,9	62.1	62.9			
1000	63.4	63.4	63.4	67.9	67.9	67.9
1250	63.2	63.8	63.2			
1600	62.1	63.1	62.0			
2000	60.6	61.8	60.4	65. 6	66.7	65.4
2500	59.3	60.6	59.0			
3150	58.2	59.4	57.7			
4000	54.1	55.1	53.3	60.2	61.2	59.5
5000	50.5	51.0	49.2			
6300	50.8	50.6	48.7			
8000	50.8	49.6	47.8	55.7	54.5	52.6
10000	51.2	48.7	46.9			

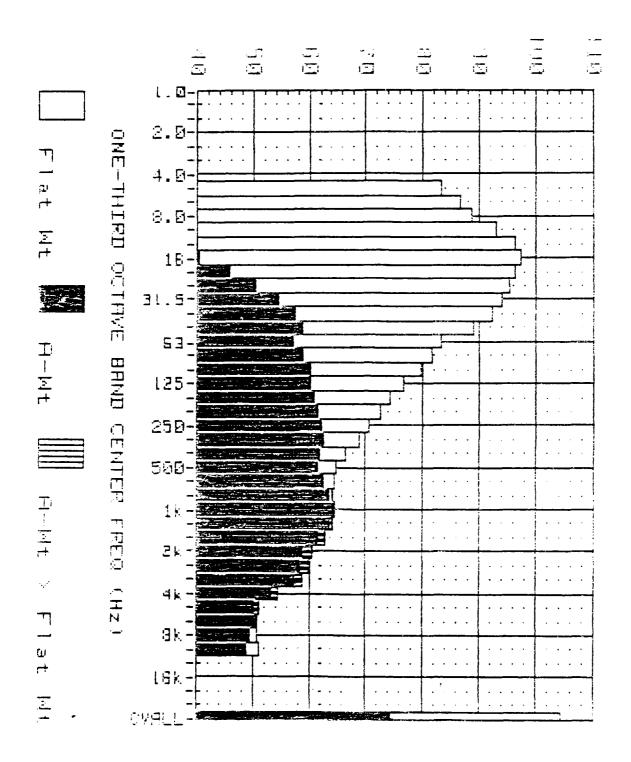


figure 5: Measured Noise Spectrum (SPL us A-Wt Levels). Elimporth AFB 50.
Elimporth AFB 50.
Elimporth AFB 50.
Elimporth AFB 50.
Elimporth AFB 50.
Elimporth AFB 50.

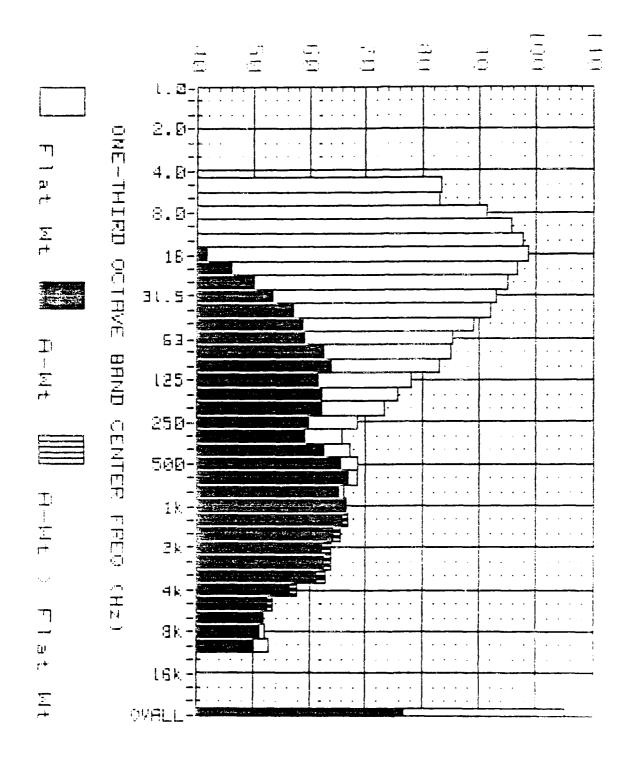
. Alego de la companyone de la companyon de la

Station: 9 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB(A)3	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)3
5	83.4	0.0	0.0			
6.3	86.7	0.0	0.0			
8	88.8	0.0	0.0	94.9	22.4	78.5
10	92.8	22.4	78.5			
12.5	96.3	32.9	85.1			
15	97.3	40.6	88.3	101.4	47.0	93.2
20	96.2	45.7	90.0			
25	95.3	50.6	90.9			
31.5	93.8	54.4	90.8	98.7	59.8	95.4
40	92.2	57.6	90.2			
50	89.0	58.8	87.7			
63	83.3	57.1	82.5	90.6	63.1	89.5
80	81.5	59.0	81.0			
100	79.4	60.3	79.1			
125	76.4	60.3	76.2	82.0	65.2	81.7
160	74.2	60.8	74.1			
200	72.4	61.5	72.4			
250	70.7	62.1	70.7	75.7	66.8	75.7
315	69.0	<u> 62.4</u>	69.0			
400	56.5	61.7	66.5			
500	54.9	51.7	64.9	70.1	66.8	70.1
630	64.5	62.5	54.5			
800	<u>64.3</u>	63.5	64.3			
1000	54.5	64.5	64.5	69.0	68.9	69.0
1250	63.7	64.3	63.7			
1500	51.8	62.8	61.7			
2000	59.3	60.5	59.1	64.9	66.0	64.7
2500	58.7	59.9	58.4			
3150	57.7	59.0	57.2			
4000	53.6	54.6	52.8	59.7	60.8	59.1
5000	50.5	51.0	49.2			
6300	50.8	50.6	48.7			
8000	50.8	49.6	47.8	55.7	54.5	52.5
10000	51.2	49.7	46.9			

****OUERALL LEGELS (5 - 18800 Hz)***

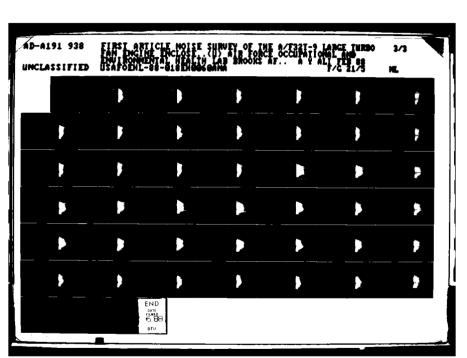
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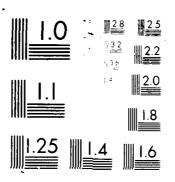


isquee 64 Measured Hoise Spectrum (Sir Governor)

Formation: 808321-9 MSS. Elloworth (Nov. B.)

Matinet 13 Hogie: 90 Degraes: By tames.





That we disappred to be opening benefit. Location: 847521-9 MSS. Elloworth 868-58.

Station: 10 Angle: 90 Degrees; Distance: 100 Meters Engine: f101; Power: Afterburner; Temp: 48 Degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MI SOUND LEVEL EdB(A)]	C-M1 SOUND LEVEL C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)J	C-MI OCTAVE BAND SL CdB(C)]
5	83.3	0.0	0.0			
6.3	83.0	0.0	0.0			
8	91.3	0.0	0.0	97.1	25.1	81.2
10	95.5	25.1	81.2			
12.5	97.7	34.3	86.5			
16	98.6	41.9	90.1	102.5	47.7	94.1
20	96.7	46.2	90.5			
25	94.9	50.2	90.5			
31.5	92.9	53.5	89.9	98.2	59.3	94.8
40	91.8	57.2	89.8			L
50	89.0	58.8	87.7			
63	85.4	59.2	84.6	91.6	65.2	90.6
80	85.0	62.5	84.5			
100	82.9	63.8	82.6			
125	77.7	61.7	77.5	84.6	67.5	84.4
160	75.7	62.3	75.6			
200	73.2	62.3	73.2			
250	68.5	59.9	68.5	75.0	65.5	75.0
315	65.9	59.3	65.9			
400	67.3	52.5	67.3			
500	68.7	65.5	58.7	73.0	70.0	73.0
630	68.7	56.7	68.7			
800	66.1	65.3	56.1			
1000	56.6	56.5	66.6	71.1	71.1	71.1
1250	66.3	66.9	66.3			L
1600	64.6	65.6	64.5			
2000	62.5	63.7	62.3	68.2	69.3	68.0
2500	62.7	64.0	62.4			
3150	61.6	62.8	61.1			
4000	56.8	57.8	56.0	63.3	64.4	62.5
5000	53.0	53.5	51.7			<u> </u>
6300	51.7	51.6	49.7			
8000	52.1	51.0	49.1	57.0	55.7	53.8
10000	52.7	30.2	48.3			

OUERALL LEUELS (5 - 10000 Hz)

0ASPL = 105.0 dB 0ASEC = 98.6 dB(C)

OASLA = 76.8 dB(A) C-A UALUE = +21.8

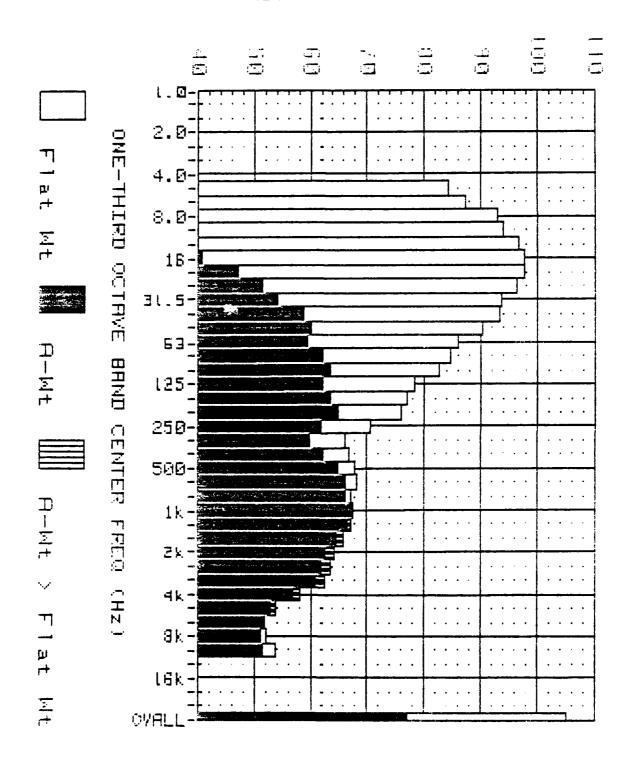


Figure 7: Measured Noise Spectrum (SPL us A-Wt Levels). Location: A/F32T-9 NSS. Ellisworth AFB SD. Station: Il Angle: 100 Degrees: Distance: 100 Meters Engine: [[U]; Power: Afterburner; lemp: 48 Degrees f

ISBLE 7: dessured House openirum Levels.
Location: A/F321-9 MSS. Elisworth AFB SO.

Station: II Angle: 100 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB(A)]	EGB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	84.1	0.0	0.0			
6,3	87.4	0.0	0.0			
8	92.8	0.0	0.0	96.9	23.5	79.6
10	93.9	23.5	79.6			
12.5	96.6	33.2	85.3			
16	97.6	40.9	89,1	102.1	48.2	94.1
20	97.7	47.2	91.5			
25	96.2	51.5	91.8			
31.5	93.6	54.2	90.6	99.4	60.7	96.1
40	93.4	58.8	91.4			
50	90.2	60.1	89.0			
63	85.8	59.6	85.0	92.4	65.5	91.3
80	84.6	62.1	84.1			
100	82.7	63.6	82.4			
125	78.3	62.2	78.1	84.8	67.9	84.6
160	76.9	63.5	76.8			
200	75.9	65.0	75.9			
250	70.4	61.8	70.4	77.3	67.5	77.3
315	66.3	59.7	66.3			
400	67.0	62.2	67.0			
500	67.9	64.7	57.9	72.4	69.4	72.4
630	68.0	66.1	68.0			
800	67.1	66.3	67.1			
1000	67.5	67.5	67.5	71.9	71.8	71.9
1250	66.7	67.3	66.7			
1600	65.0	66.0	64.9			
2000	63.0	64.2	62.8	68.3	69.5	68.1
2500	62.2	63.5	61.9			
3150	61.2	62.4	60.7			
4000	57.1	58.1	56.3	63.0	64.1	62.4
5000	53.2	53.7	51.9	,	ļ	
6300	51.8	51.7	49.8			
8000	52.1	51.0	49.1	57.5	56.1	54.2
10000	53.9	51.4	49.5			

0UERALL LEVELS (5 - 10000 Hz)

OASPL = 105.1 dB OASLC = 99.3 dB(C) OASLA = 77.2 dB(A) C-A UALUE = +22.1

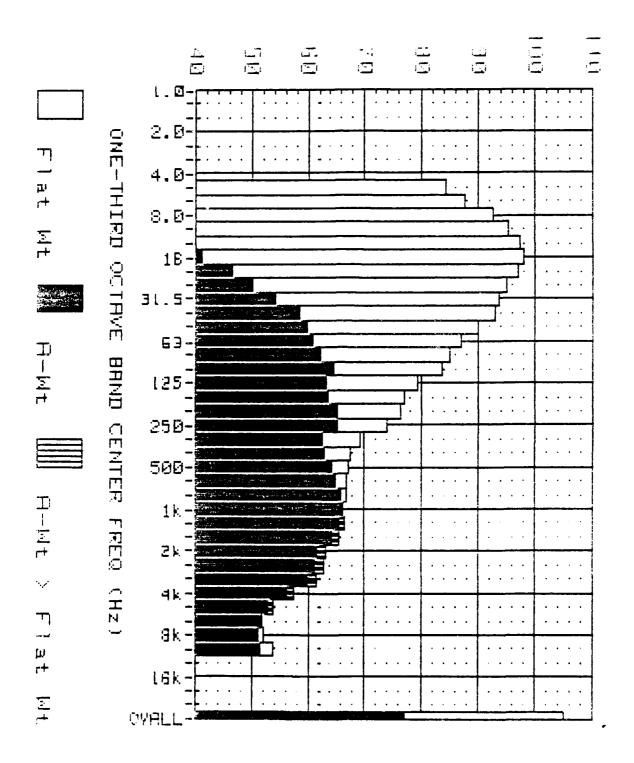


Figure 8: Measured Noise Spectrum (SPL vs A-Wt Levels). Location: 8/F32T-9 MSS. Ellsworth AFB SD. Distron: 72 Angle: 110 Degrees; Distance: 100 Meters rogine: 1101: Power: Afterburner; Temp: 48 Degrees 7

TABLE 8: deasured Horse Spectrum Levels. Location: A-F32T-9 MSS. Ellsworth AFB 58.

Station: 12 Angle: 110 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	C-MT LEVEL CGB(C)3	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-M1 OCTAVE BAND SL C-M1
5	84.3	ე. ე	0.0			
6.3	87.7	0.0	0.0			
8	92.5	0.0	0.0	97.6	24.9	81.0
10	95.3	24.9	91.0			
12.5	97.4	34.0	86.2			
16	97.9	41.2	99.4	102.2	47.8	93.9
20	97.0	46.5	90.7			
25	94.9	50.2	90.5			
31.5	93.6	54.2	90.6	98.7	60.3	95.5
40	93.0	58.4	91.0			
50	90.1	59.9	88.8			l
63	86.9	60.7	86.1	92.6	65.8	91.5
80	84.8	62.3	84.3			
100	83.7	64.6	83.4			
125	79.2	63.1	79.0	85.7	68.6	85.4
160	77.9	63.6	76.9			ļI
200	76.2	65.3	76.2			
250	73.8	<u>65.2</u>	73.8	78.7	69.3	78.7
315	69.1	52.5	69.1			
400	67.6	62.8	67.6			
500	57.2	64.8	57.2	72.0	68.7	72.0
630	66.7	64.8	66.7			
800	66.7	65.9	66.7			
1000	66.3	66.3	66.3	71.1	71.0	71,1
1250	66.0	66.6	66.0			
1600	64.5	65.5	64.4			
2000	61.9	63.1	61.7	67.6	68.8	67.5
2500	61.6	62.9	61.3			
3150	60.3	61.5	59.8		<u> </u>	
4000	56.5	57.5	55.7	62.3	63.4	61.7
5000	53.2	53.7	51.9			
6300	51.8	51.7	49.8			-
8000	52.1	51.0	49.1	57.5	56.1	54.2
10000	53.9	51.4	49.5			<u> </u>

OUERALL LEVELS (5 - 16000 Hz)

OASPL = 105.1 dB OASLC = 39.0 dB(C) UASLA = 77.1 dB(A) C-A UALUE = +22.0

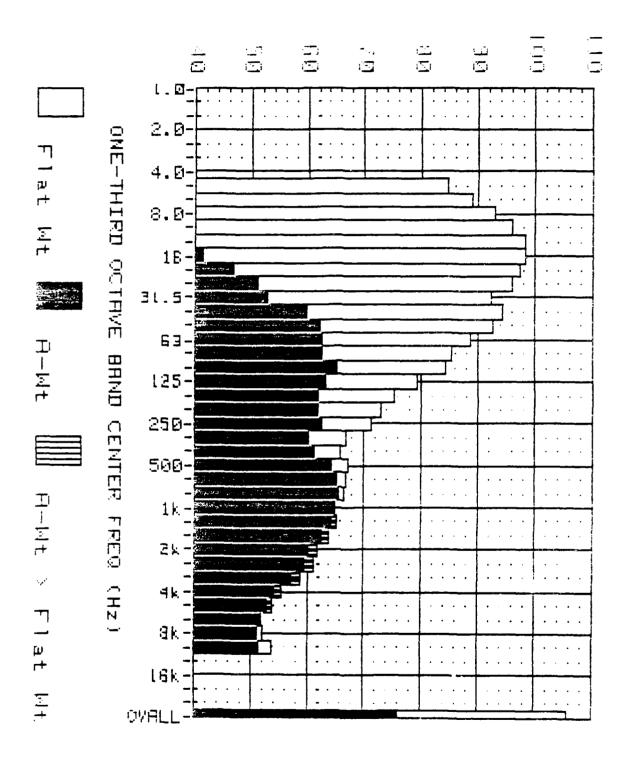


Figure 9: Measured Noise Spectrum (SPL us A-Wt Lavels). Lucation: A/F32T-9 NSS. Ellsworth AFB SD. Station: 13 Angle: 120 Degrees: Distance: 160 Meters Ingine: (101: Power: Afterburner: Jemp: 48 Degrees f

TRBLE 9: deasured doise spectrum Levels. Location: AVE321-9 NSS. Elisworth AFB SD.

Station: 13 Angle: 120 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Jemp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL Cd8(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL EdB(A)3	C-WT OCTAVE BAND SL CdB(C)]
5	84.7	0.0	0.0			
6.3	89.0	0.0	0.0			
8	93.1	0.0	0.0	98.4	25.7	81.8
10	96.1	25.7	81.8			
12.5	98.2	34.8	87.0			
16	98.2	41.5	89.7	102.7	48.2	94.4
20	97.4	46.9	91.2			
25	96.0	51.3	91.6			
31.5	92.4	53.0	89.4	99.3	61.1	96.1
40	94.4	59.8	92.4			
50	92.6	62.4	91.3			
63	88.6	62.4	87.8	94.5	67.2	93.5
80	85.2	62.7	84.7			
100	84.4	65.3	84.1			
125	79.2	63.1	79.0	85.9	68.4	85.7
160	75.1	61.7	75.0			
200	72.9	62.0	72.9			
250	71.1	62.5	71.1	75.7	66.4	75.7
315	55.8	60.2	66.8			L
400	65.9	61.1	65.9			
500	57.4	64.2	67.4	71.5	68.5	71.5
630	67.0	65.0	67.0			
800	56.4	65.6	66.4			
1000	64.8	64.8	61.8	70.1	70.0	70.1
1250	64.5	65.1	64.5			
1600	62.7	63.7	62.6			
2000	60.7	61.9	60.5	66.0	67.1	65.8
2500	59.8	61.1	59.5			
3150	57.6	58.8	57.1			ļ
4000	54.3	55.3	53.6	60.2	61.2	59.5
5000	53.2	53.7	51.9			
6300	51.8	51.7	49.8			
8000	52.1	51.0	49.1	57.5	56.1	54.2
10000	53.9	51.4	49.5			

OHSPL = 105.7 dB OHSLC = 99.8 dB(C) UASLA = 76.2 dB(A) C-A VALUE = +23.6

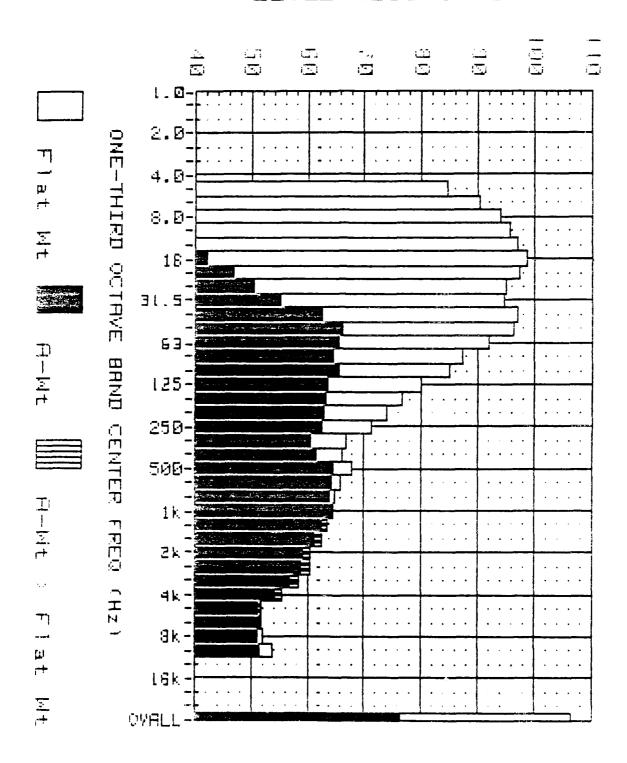


Figure 10: Measured Noise Spectrum (SPL vs A-Wt Levels).
Location: A.F32F-9 NSS. Ellsworth AFB SD.
Station: 14 Angle: 150 Degrees: Distance: 100 Meters
Engine: fill: Power: Atterburner: lemp: 48 Degrees (

TABLE 14: deasured horse Spectrum Levers. Location: n.732T-9 NSS. Ellsworth AFB SD.

Station: 14 Hingle: 130 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-M1 EGB(C)3	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB <c>3</c>
5	84.5	0.0	0,0			
6.3	90.3	0.0	0,0			
8	93.8	0.0	0.0	98.5	25.1	81.2
10	95.5	25.1	81.2			
12.5	97.0	33.6	85.8			
16	98.7	42.0	90.2	102.5	48.2	94,4
20	97.4	46.9	91.2			
25	95.1	50.4	90.7			
31.5	94.5	55.1	91.5	100.5	63.4	97.7
40	97.1	62.5	95.1			
50	96.3	66.0	95.0			
63	91.8	65.6	91.0	98.0	70.2	96.9
80	87.2	64.7	86.7		ļ	
100	84.8	65.7	84.5			
125	79.7	63.6	79.5	86.5	69.1	86.2
160	76.7	63.3	76.6			
200	73.9	63.0	73.9			
250	71.1	62.5	71.1	76.3	66.9	75.3
315	67.0	60.4	67.0			
400	55,3	61.5	66.3			
500	57.7	64.5	67.7	71.5	68.3	71.5
630	66.0	64.0	66. D			
800	64.7	63.9	64.7			
1000	64.4	64.4	64.4	68.9	68.8	68.9
1250	63.0	63.6	63.0			
1600	61.6	62.6	61.5			
2000	59.5	60.7	59.3	65.0	66.2	64.8
<u> 2500</u>	59.3	60.6	59.0			
3150	57.2	58.4	56.7			
4000	54.3	55.3	53.6	59.7	60.7	59.0
5000	51.4	51.9	50.1			
6300	51.8	51.7	49.8		<u> </u>	
8000	52.1	51.0	49.1	57.5	56.1	54.2
10000	53.9	51.4	49.5			

00ERALL LEUELS (5 - 10000 Hz)

 UHSPL = 106.3 dB
 UHSLA = 76.6 dB(A)

 UHSLE = 101.5 dB(C)
 C-A VALUE = +24.8

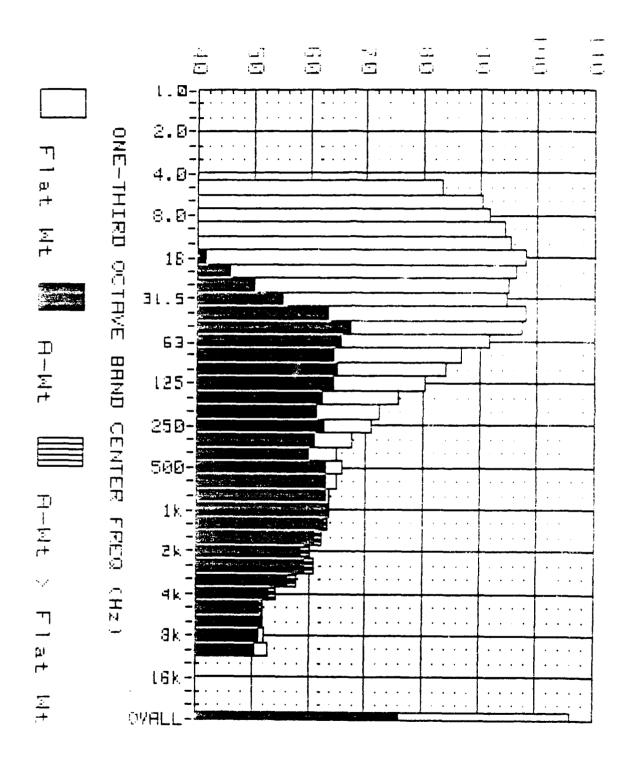


figure 11: Measured Noise Spectrum (SPL us A-Wt Levels). Focation: HZF32I-9 NSS. Ellsworth AF8 SD. Gration: 15 Angle: 140 Degrees: Bistance: 100 Meters Engine. : 41: Yower: Afterburner: Temp: 48 Degrees F

HABLE Will Measured duried upactnem because Cocation: H/F321-9 MSS. Ellsworth HFB SD.

Station: 15 Angle: 140 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL CdB(A)]	CGB(C)]	OCTAVE BAND SPL (dB)	A-WI OCTAVE BAND SL CdB(A)]	C-MT OCTAVE BAND SL EdB <c>1</c>
5	83.2	0.0	0.0			
6.3	90.1	0.0	0.0			
8	91.7	0.0	0.0	97.2	23.9	80.0
10	94.3	23.9	80.0		 	
12.5	95.4	32.0	84.2			
16	98.0	41.3	89.5	101.5	47.3	93.4
20	96.4	45.9	90.2			
25	94.8	50.1	90.4			
31.5	94.5	55.2	91.6	100.8	64.0	98. U
40	97.8	63.2	95.8			
50	97.4	67.2	96.1			
63	91.6	65,4	90.8	98.7	70.5	97.5
80	86.6	64.1	86.1			
100	83.9	64.8	83.6			
125	30.1	64.0	79.9	85.8	68.6	<u>85.6</u>
160	75.5	62.1	75.4		·	
200	72.2	61.3	72.2			
250	71.0	62.4	71.0	75.4	66.1	75.4
315	67.6	51.0	67.6			
400	64.8	60.0	64.3			
500	66.0	62.8	66.0	70.0	66.8	70.0
630	64.7	52.9	64.7			
800	63.6	62.8	63.6			
1000	63.4	53.4	63.4	68.0	67.9	68.0
1250	62.7	63.3	62.7			
1600	61.3	62.3	61.2			
2000	58.8	60.0	58.6	64.8	65.9	64.6
2500	<u>59.6</u>	60.9	59.3			
3150	56.6	57.8	56.1			
4000	53.2	54.2	52.4	59.0	60.0	58.3
5000	51.4	51.9	50.1			
6300	51.8	51.7	49.8			
0008	52.1	51.0	49.1	57.1	55.8	53.9
10000	52.9	50.4	48.5			

OASPL = 105.9 dB

0A5EC = 101.7 dB(C)

OASLA = 76.2 dB(h) C=A UALUE = +25.5

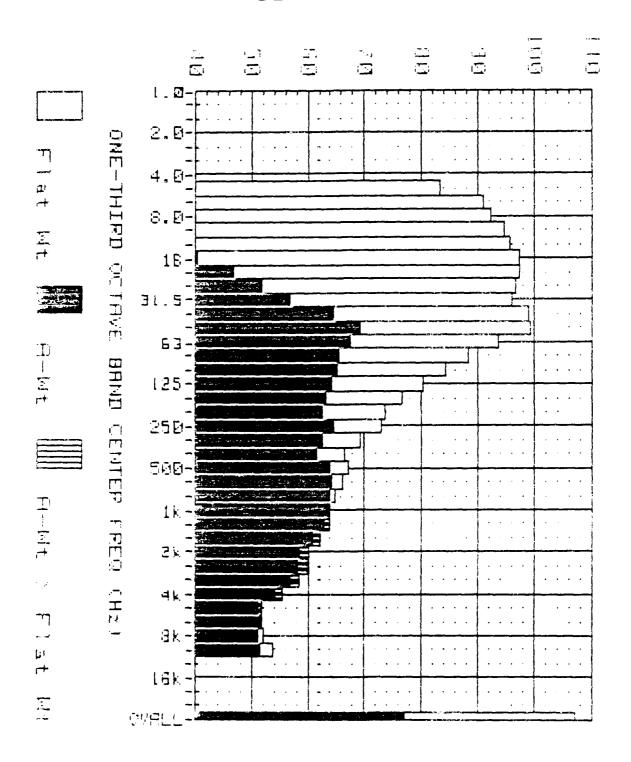


Figure 12: Measured Noise Spectrum (SPL os H-Wt Levels). focation: d.F321-9 MSS. Elisworth HFB SD. station: 10 dayle: 150 Degrees; Unitance: 100 Meter, tiduae: 100:: cower: dicerburner; Temp: 48 degrees:

AMBLE 12: Measured Hoise Spectrum Levels. Location: AVESZI-9 NGS. Elisworth HEB SD.

Station: 16 Angle: 150 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-M1 SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C98 <c>J OCTAVE C-MT</c>
5	83.1	0.0	0.0			
6.3	90.8	0.0	0.0			
8	92.2	0.0	0.0	97.6	24.2	80.3
10	94.6	24.2	90.3			
12.5	95.8	32.4	84.5			
16	97.2	40.5	88.7	101.6	47.8	93.5
20	97.3	46.8	91.0			
25	96.7	52.0	92.3			
31.5	96.1	56.7	93.1	102.2	· 65.3	99.4
40	99.0	64.4	97.0			
50	99.4	69.2	98.1			
63	93.7	67.5	92.9	100.6	72.4	99.5
80	88.2	65.7	87.7			
100	84.4	65.3	84.1			
125	80.2	64.2	80.0	86.3	69.1	86.1
160	76.6	63.2	76.5			
200	73.6	62.7	73.6			
250	73.0	64.4	73.0	77.1	68.1	77.1
315	69.1	62.5	69.1			
400	66.5	61.7	66.5			
500	57.0	63.8	67.0	71.3	68.1	71.3
630	66.0	64.1	66.0			
800	64.8	6 1 .0	64.8			
1000	63.9	63.9	63.9	68.8	68.6	68.8
1250	63.1	63.7	63.1			
1600	61.1	62.1	61.0			
2000	58.9	60.1	58.7	64.4	65.5	64.2
2500	58.4	59.7	58.1			
3150	57.2	58.4	56.7			
4000	54.3	55.3	53.6	59.7	60.7	59.0
5000	51.4	51.9	50.1			
6300	51.8	51.7	49.8			
8000	52.1	51.0	49.1	57.5	56.1	54.2
10000	53.9	51.4	49.5			

0UERALL LEUELS <5 - 10000 Hz)

GASPL = 106.9 dB GASEC = 103.1 dB(C) OASLA = 77.4 dB(A)

C-A UALUE ≈ +25.8

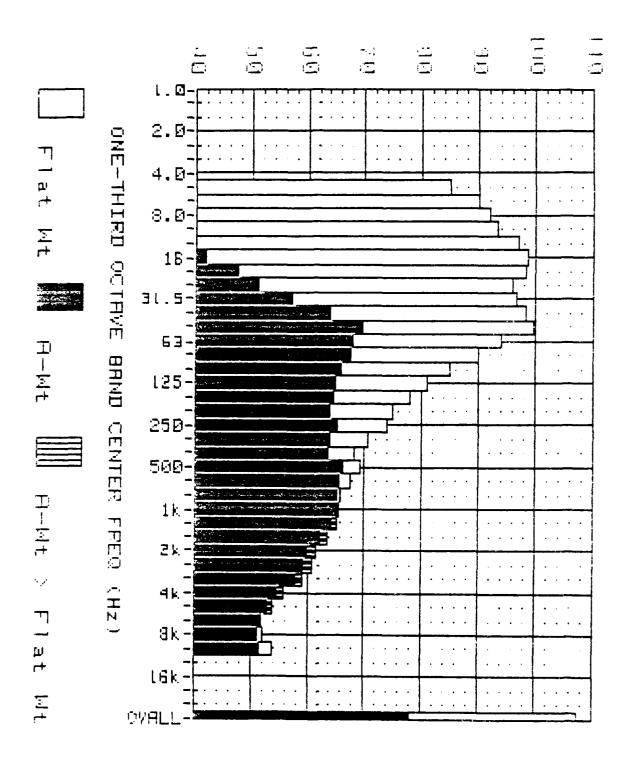


Figure 13: Measured Noise Spectrum (SPE vs A-Wt Levels). Location: H/F32I-9 MSS. Ellsworth HFB SD. Station: 17 Angle: 600 Degrees: Distance: 100 Meters Engine: F13I: Power: Htterburner: Temp: 48 Degrees F

THBLE 13: Chasured Horse Spectrum Levels. Location: H77321-9 MSS. Ellsworth HFB SD.

Station: 17 Angle: 160 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(U)]	C-MT SOUND LEVEL CdB <c>1</c>	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)J	C-M1 C-M1 C-M1
5	85.0	0.0	0.0			
6.3	89.8	0.0	0.0			
8	91.9	0.0	0.0	96.7	23.0	79.1
10	93.4	23.0	79.1			
12.5	97.0	33.6	85.8			
16	98.5	41.8	90.0	102.7	48.8	94.7
20	98.2	47.7	92.0			
25	96.0	51.3	91.6			
31.5	96.6	57.2	93.6	101.9	64.9	99.1
40	98.4	63.8	96.4			
50	99.8	69.6	98.5			
63	94.1	67.9	93.3	101.1	73.2	100.0
80	90.0	67.4	89.5			
100	84.9	65.8	84.6			
125	80.8	64.7	80.6	86.9	69.8	86.7
160	77.8	64.4	77.7			
200	74.8	63.9	74.8			
250	73.9	65.3	73.9	78.2	69.2	78.2
315	70.4	63.8	70.4			
400	68.3	63.5	63.3			
500	59.4	66.2	69.4	73.2	70.0	73.2
630	67.4	65.5	67.4			
800	56.0	65.2	. 56.0			
1000	65.6	65.6	65.6	70.2	70.1	70.2
1250	64.5	65.1	64.5			
1600	62.6	63.6	62.5			
2000	60.3	61.5	60.1	65.8	66.9	65.6
2500	59.6	60.9	59.3			
3150	58.1	59.3	57.6			
4000	54.8	55.8	54.1	60.6	61.6	59,9
5000	53.2	53.7	51.9			
6300	51.8	51.7	49.8			
8000	52.1	51.0	49.1	57.5	56.1	54.2
10000	53.9	51.4	49.5			

0UERALL LEUELS (5 - 18000 Hz)

ORSPL = 107.2 dB ORSEC = 103.4 dB(C) DASLA = 78.4 dB(A) C-A VALUE = +25.0

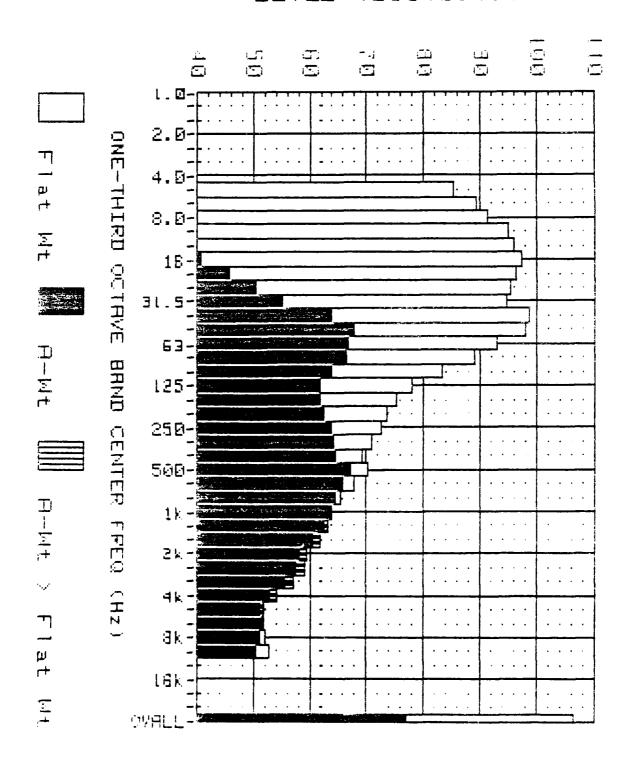


figure 14: Measured Moise Spectrum (SPE os A-Ut Levels). Location: A.(321-9 MSS. Ellsworth HEB SD. Station: Location: 170 Degrees; Distance: 100 Meters Logine: (inc. Jower: miterburner; lemp: 10 Degrees (

ABEL 14: Measured moise Spectrum Levels. Location: m/8321-9 HSS. Elisworth HF6 SD.

Station: 18 Hingle: 170 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	H-MT SOUND LEVEL CAB(A)]	C-MT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	85.4	9.0	0,0			
6.3	89.3	0.0	0.0			
88	91.3	0.0	0.0	97.2	24.5	80.6
10	94.9	24.5	80.6			
12.5	96.0	32.6	84.8			
16	97,4	40.7	88.9	101.4	47.2	93.2
20	96.4	45.9	90.2			
25	95.2	50.5	90.8			
31.5	94.7	55.3	91.7	101.3	64.6	98.5
40	98.5	63.9	96.5		ļ	
50	98.0	67.7	96.7			
63	93.0	66.8	92.2	99.6	71.8	98.5
80	89.1	66.6	88.6			
100	83.1	64.0	82.8			
125	77.8	61.7	77.6	84.7	67.4	84.5
160	75.2	61.8	75.1		-	
200	73.6	62.7	73.6			
250	72.5	63.9	72.5	77.2	68.4	77.2
315	70.7	64.1	70.7			
400	69.4	64.6	59.4			
500	70.4	67.2	70.4	74.0	70.7	74.0
630	67.7	55.8	67.7			
800	65.5	64.7	65.5			
1000	63.9	63.9	63.9	69.0	68.3	69.0
1250	62.7	63.3	62.7			
1600	60.9	61.9	60.8	64.0	7.F. 1	63.0
2000	58.4	59.6	58.2	64.0	65.1	63.8
2500 3150	57.7	59.0	57.4			
4000	55.9 53.2	57.2	55.4	50.3	50.7	F7 0
5000	53.4	54.2	52.4	58.7	59.7	57.9
6300	51.8	51.9	50.1			
8000	51.8	51.7	49.8	<u></u>	FF 2	F7 0
10000	52.9	51.0 50.4	49.1 48.5	57.1	55.8	53,9

OUERHLL LEUELS (5 - 10000 Hz)

OASPL = 106.2 dB

OASLA = 77.4 dB(A)

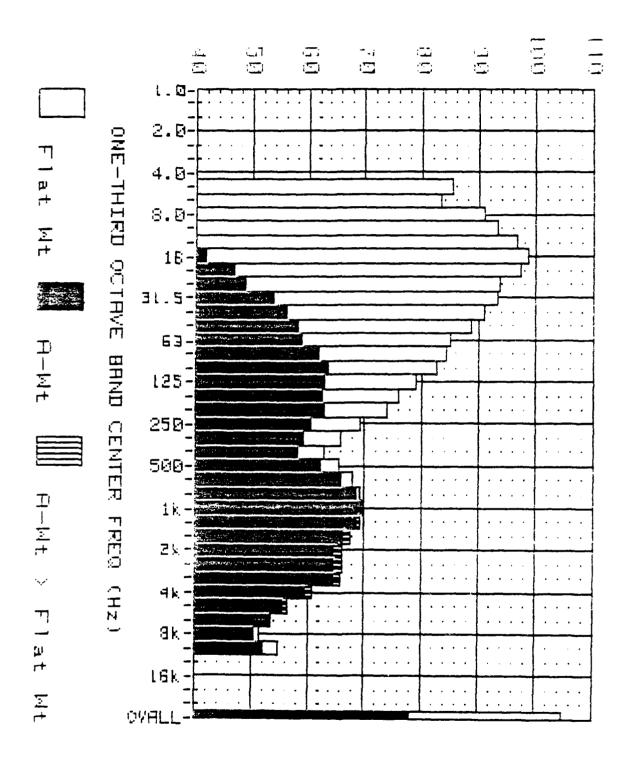


Figure 15: Measured Noise Spectrum (SPL us A-Wt Levels). Location: A/F32I-9 NSS. Ellsworth AFB SD. Station: 10 Angle: 90 Degrees: Distance: 100 Meters Logine: F(B): Power: Afterburner; Temp: 48 Degrees F

InBLE (5: Amasgred Hoise Spectrum Levels. Location: HUF32T-9 NSS. Ellsworth HFB SD.

Station: 10 Angle: 90 Degrees: Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	EGB(8)] PEAET SOOND B-M1	C-MT SOUND LEVEL EdB(C)]	OCTAVE BANO SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)]
5	85.4	0.0	0.0			
6.3	83.1	0.0	0.0			
8	90.9	0.0	0.0	95.5	22.9	79.0
10	93.3	22.9	79.0			
12.5	96.6	33.2	85.4			
16	98.7	42.0	90.2	102.4	48.3	94.3
20	97.5	47.0	91.3			
25	93.5	48.8	89.1			
31.5	93.2	53.8	90.2	97.5	58.7	94.2
40	90.9	56.3	88.9			
50	88.5	58.3	87.2			
63	84.9	58.7	84.1	91.1	64.6	90.1
80	84.2	61.7	83.7			
100	82.6	63.5	82.3			
125	78.9	62.8	78.7	84.7	67.7	84.5
160	75.9	62.5	75.8			
200	73.9	63.0	73.9			
250	69.2	60.6	69.2	75.7	66.0	75.7
315	65.9	59.3	65.9			
400	63,0	58.2	63.0			
500	65.5	62.3	65.5	70.6	67.9	70.6
630	67.8	65.9	67.8			
800	69.4	68.5	69.4			
1000	69.7	69.7	69.7	74.1	74.0	74.1
1250	68.8	69.4	68.8			
1600	66.5	67.5	66.5			
2000	65.0	66.2	64.8	70.3	71.4	70.1
2500	64.8	66.1	64.5	·		
3150	64.7	66.0	64.2			
4000	59.8	60.8	59.0	66.4	67.5	65.7
5000	55.9	56.5	54.7			
6300	53.3	53.2	51.4			
8000	51.5	50.4	48.5	58.1	56,9	55.0
10000	54.6	52.1	50.3			

OUERALL LEUELS (5 - 10000 Hz)

08SPL ≈ 104.6 dB

OASLA ≈ 78.1 dB(A)

SASLC = 98.3 dB(C)

C-A UALUE = +20.2

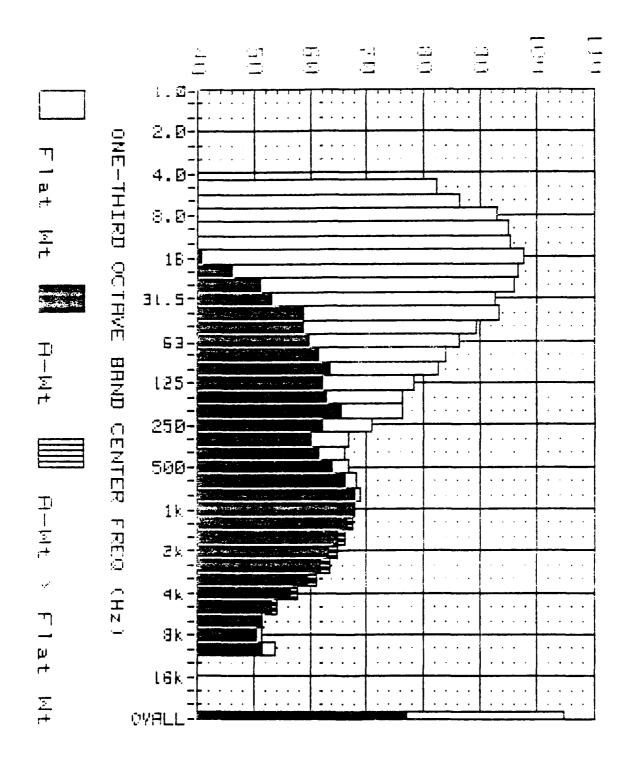


Figure 16: Measured Noise Spectrum (SPL us H-Wt Levels). Location: A/F32I-9 NSS. Ellsworth AFB 5D. Station: 11 Hingle: 100 Degrees: Distance: 100 Meters Lagrae: (101: Power: Afterburner: Temp: 48 Degrees.

Station: 11 Angle: 100 Degrees: Distance: 100 Meters Engine: F101: Power: Afterburner: Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	82.2	0.0	0.0			
6.3	86.1	0.0	0.0			
8	92.8	0.0	0.0	97.4	24.6	80.7
10_	95.0	24.6	80.7			
12.5	95.3	31.9	84.1			
16	97.7	41.0	89.2	101.4	47.3	93.4
20	96.6	46.1	90.4			
25	95.8	51.1	91.4			
31.5	92.7	53.3	89.7	98.9	60.4	95.7
40	93.4	58.8	91.4			
50	89.1	58.9	87.8			
63	86.2	60.0	85. 1	91.7	65.0	90.7
80	83.9	61.4	83.4			
100	82.6	63,5	82.3			
125	78.3	62.2	78.1	84.7	67.7	84.4
160	76.3	62.9	76.2			
200	76.3	65.4	76.3			
250	70.8	62.2	70.8	77.8	67.9	77.8
315	66.9	60.3	66.9			
400	66.3	61.5	66.3			
500	67.0	63.8	67,0	72.0	69.0	72.0
630	68.1	66.2	68.1			
800	68.7	67.9	68.7			
1000	67.7	67.7	67.7	72.6	72.5	72.5
1250	66.9	67.5	66.9			
1600	65.0	66.0	65.0			
2000	63.6	64.8	63.4	68.6	69.7	68.4
2500	62.3	63.6	62.0			
3150	59.9	61.2	59.4			
4000	56.9	57.9	56.1	62.3	63,4	61.6
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
8000	51.5	50.4	48.5	57.2	55.9	54.0
10000	53.8	51.3	49.4			

00ERALL LEUELS (5 - 10000 Hz)

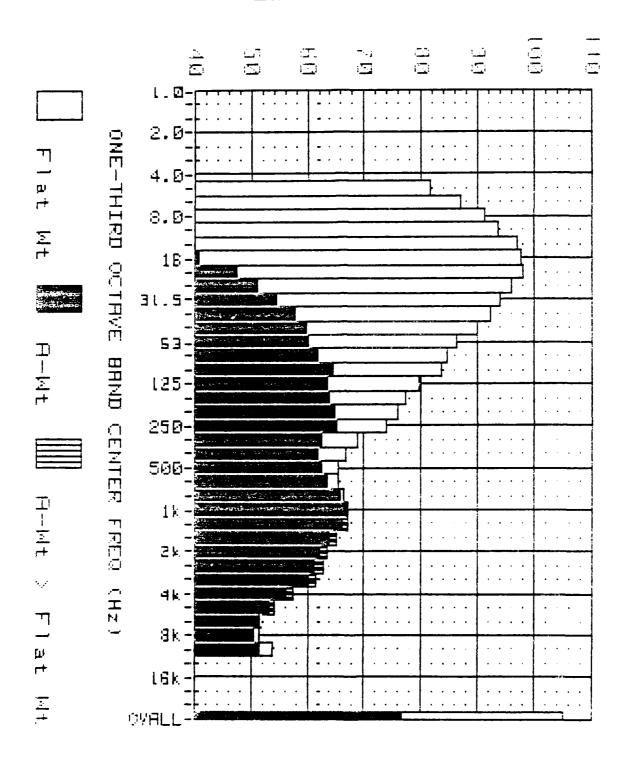


Figure 17: Measured Noise Spectrum (SPL vs A-Wt Levels). Location: H/F32T-9 NSS. Ellsworth HFB SD. Phation: 10 Hingle: 110 Degrees; Distance: 100 Meters Physical (151): Power: H/Farburner: Temp: 48 Degrees (

ABLE 17: Measured moise Spectrum Lemeis. Location: m.F321-9 MSS. Elisworth AFB SD.

Station: 12 Angle: 110 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MI SOUND LEVEL Cd8(A)]	C-MT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	H-MT OCTAVE BAND SL EdB(A)]	C-MT OCTAVE BAND SL EdB(C)]
5	81.5	0.0	0.0			
6.3	86.8	0.0	0.0			
8	91.3	0.0	0.0	96.1	23.2	79.3
10	93.6	23.2	79.3		L	
12.5	96.9	33.5	85.7			
16	97.6	40.9	89.1	102.3	48.5	34.3
20	98.0	47.5	91.8			
25	95.9	51.2	91.5			
31.5	93.9	54.4	90.8	99.0	60.0	95.7
40	92.3	57.7	90.3			
50	90.0	59.8	88.7			
63	86.3	60.1	85.6	92.3	65.5	91.3
80	84.5	62.0	84.0			
100	83.6	64.5	83.3			
125	79.5	63.4	79.3	85.7	68.7	85.5
160	77.3	63.9	77.2			
200	75.8	64.9	75.8			
250	73.8	65.2	73.8	78.4	69.1	78.4
315	69.0	62.4	69. D			
400	66.8	52. il	66.8			
500	65.7	52.5	65.7	70.8	67.5	70.8
630	65.4	63.5	65.4			
800	66.6	65.8	66.6			
1000	67.1	67.1	67.1	71.6	71.5	71.6
1250	66.7	67.2	66.7			
1600	64.1	65.1	64.0			
2000	62.4	63.6	62.2	67.6	68.8	67.4
2500	61.6	62.9	61.3			
3150	60.4	61.7	59.9			
4000	56.6	57.6	55.7	62.5	63.6	61.9
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
8000	51.5	50.4	48.5	57.2	55.9	54.0
10000	53.8	51.3	49.4			

OUERALL LEUELS /5 - 19000 Hz/

0ASPL = 105.0 dB 0ASEC = 39.2 dB(C) OASLA = 77.0 dB(A) C-A UALUE = +22.2

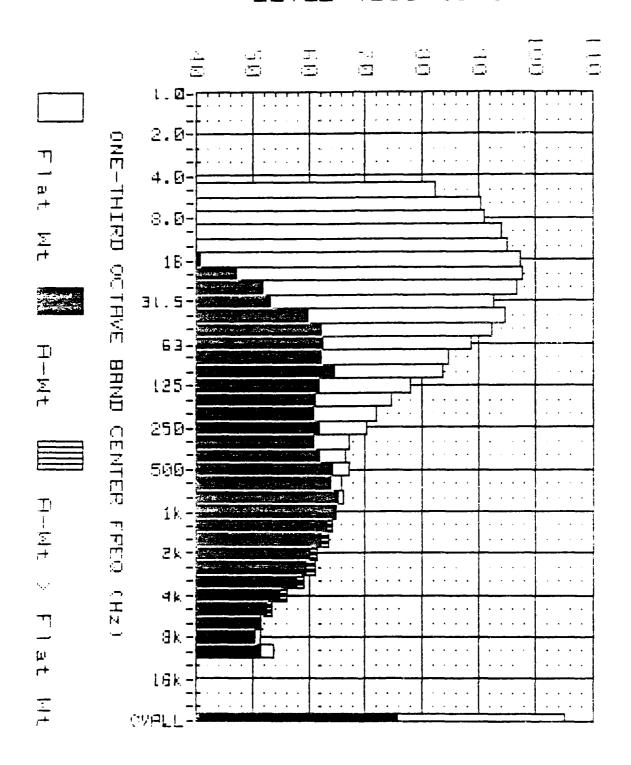


Figure 18: Measured Noise Spectrum CSPL us A-Wf Levels). Location: AJF32I-9 MSS. Elloworth AFB SD. Jation: () Angle: () Degrees: Distance: (0) Melers Compute: () Old: Power: Atterburner: Temp: 48 Degrees (

.Obli (dr. Moramed des 2 opertrum Leonis. Location: h.0321-9 mSS. Elisworth mEs Sb.

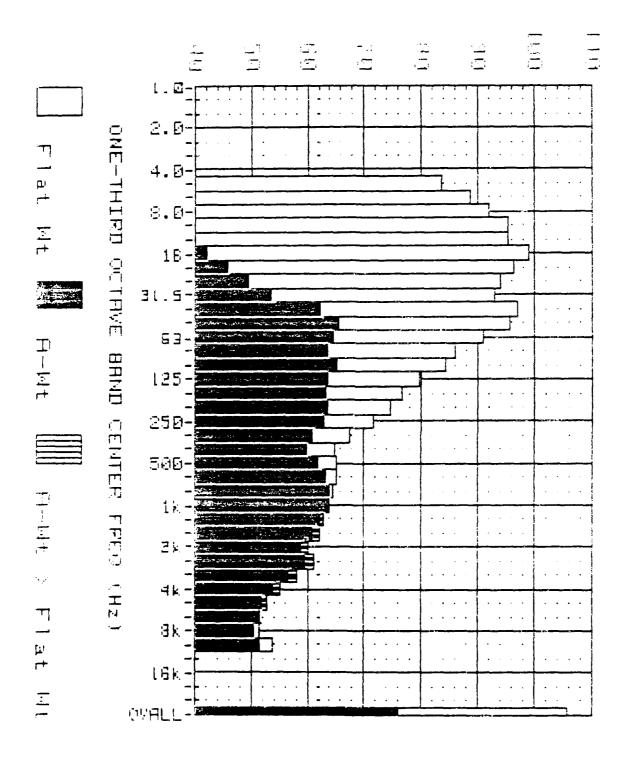
Station: 13 Hngle: 120 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (d8)	A-WT SOUND LEVEL CdB(A)]	EGB(C)] FENET C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)3	C-UT OCTAVE BAND SL CdB(C)]
5	82.2	0.0	0.0			
6.3	90.4	0.0	0.0			
8	90.9	0.0	0.0	96.8	23.5	79. ń
10	93.9	23.5	79.6			
12.5	94.8	31.4	83.6			
16	97.3	40.6	88.8	101.6	48.2	93.8
50_	97.8	47.3	91.5			
25	96.7	52.0	92.3			
31.5	92.7	53.3	89.7	99.7	61.3	96.4
40	94.5	59.9	92.5			
50	92.3	62.1	91.0			
63	88.7	62.5	87.9	94.4	67.0	93.3
80	84.7	62.2	84.2			
100	83.7	64.6	83.4			
125	78.0	61.9	77.8	85.1	67.6	84.9
160	74.7	61.3	74.6			
200	71.8	60.9	71.8			L
250	70.3	51.7	70.3	74.9	65.9	74.9
315	67.3	50.7	67.3			
100	55.5	51.8	55.5			
500	57.3	54.1	67.3	71.4	68.2	71.4
630	65.3	63.9	55.8			
860	ნი. ()	65.2	66.0			
1:000	64.3	54.8	64.8	69.7	69.6	69.7
1250	63.6	64.2	63.6			
1600	52.4	63.4	62.3			
2000	60.4	61.6	60.2	65.8	66.9	65.6
2500 2150	59.8	61.1	59.5			<u> </u>
3150	50.1	59.3	57.6			<u> </u>
4000	55.1	56.1	54.3	60.7	61.7	59.9
5000	53.0	53.5	51.7			<u> </u>
6300	51.5	51.4	49.5			
8000	51.5	50.4	48.5	57.2	55.9	54.0
1 ៦០០០	53.3	51.3	49.4			

****OUERALL LEUELS <5 ~ 10000 Hz>***

บิคริโล = 75.9 สิธิเลว มิลัย บิคโบย = +23.3

385PL = 185.0 dB 385£0 = 99.7 d8€02



riquee 19= | Measured Moise Spectrum (SPL us A-Wi Levels). Lecation: | B-F521-9 MS5. Elloworth AFB SD. Didition: | Min modle: | SD Degrees: | Distance: 180 Meters | Didition: | Min modle: | Min moder: | Lemo: | Min Degrees |

willia the manager of a spectrum Levels. Eucarion: misself thas. Elisworth MHS SB.

Station: i4 Angle: :30 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE: LEVEL (dB)	A-WT SOUND CEVEL Cabch ()	C-UT SOUND LEVEL (dB(C)1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MI OCTAVE BAND SL C-B(C)J
5	85.7	J. il	0.0			
6.3	88.7	J, U	0.0			
8	91.9	9. U	0.0	97.5	24.9	81.0
10	95.3	24.9	81.0			L
12.5	95.2	31.8	84.0			
16	98.9	12.2	90.4	101.9	47.5	93.8
20	96.3	45.8	90.0			
25	94.1	49.4	89.7			
31.5	93.1	53.7	90.1	99.8	63.0	97.0
40	96.9	62.3	94.9			
50	95.6	65.4	94.3			
63	90.8	64.6	90.0	97.2	69.3	96.1
80	85.9	63.4	85.4			
100	84.3	65.2	84.0			
125	79.7	63.6	79.5	86.1	68.9	85.9
160	76.6	63.2	76.5			
200	74.4	63.5	74.4	-		
250	71.5	62.9	71.5	76.8	67.4	76.8
315	67.5	61.0	67.6			
<u>400</u>	64.7	59.9	64.7			
500	65.2	52.0	65.2	69.8	66.7	59.8
630	65.1	53.2	65.1			
800	64.5	63.7	64.5			
1000	63.7	63.7	63.7	68.4	68.3	68.4
1250	62.4	53.0	62.4			
1600	61.0	62.0	60.9			
2000	59.1	60.3	58.9	64.8	66.0	54.6
2500	59.8	61.1	59.5			
3150	56.9	58.1	56.4	50 (F0 0
4000 5000	54.1	55.1	53.3	59.6	60.6	58.9
5000	52.1	52.6	50.9			
6300 8000	51.5	51.4	49.5		F.E. (3	
10000	51.5 53.8	50.4 51.3	48.5 49.4	57.2	55.9	54.0

OHSPL = 195.6 dB OHSPL = 108.6 dB OHSRC = (00.8 dB(C)

0ASLA = 76.1 dB(A)

C-A VALUE = +24.?

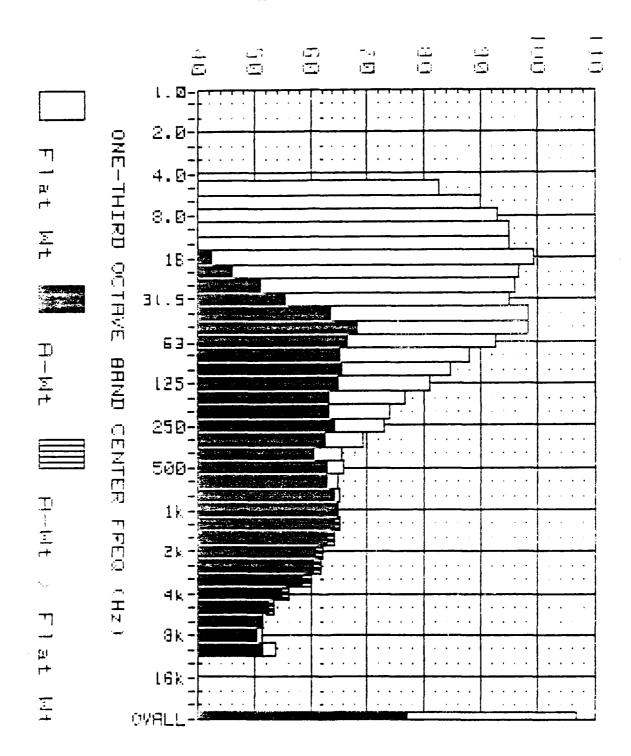


Figure 29: Measured Noise Spectrum (SPL vs A-Wt Levels). Location: AZE321-9 MSS. Elisworth AEB 50. station: 15 migle: 140 Degrees: Distance: 100 Meters Logine: Fibl: Power: Afterburner: Temp: 46 Degrees F

.ABELI 28: Heasungs Hoise Spectrum Levels. Location: A/7327-9 M3S. Ellsworth ArB Sb.

Station: IS Angle: i40 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(U) FENET FENET EGB(U)	C-WT SOUND LEVEL EdB(C)3	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-MT OCTAVE BAND SL EdB(C)]
5	82.5	0.0	0.0			
6.3	89.9	Ú. O	0.0			
8	93.0	0.0	0.0	97.9	24.6	80.7
10	95.0	24.6	80.7			
12.5	95.1	31.7	83.9			
16	99.2	42.5	90.7	102.0	47.7	94.0
20	96.6	46.1	90.4			
25	96.0	51.3	91.6			
31.5	95.1	55.7	92.1	101.4	64.5	98.6
40	98.3	63.7	96.3			
50	98.3	68.1	97.0			
63	92.7	66.5	92.0	99.7	71.6	98.5
80	87.8	65.3	87.3			
100	84.6	65.5	84.3			
125	81.0	64.9	80.8	86.6	69.4	86.4
160	76.7	63.3	76.6			
200	74.0	63.1	74.0			
250	72.8	64.2	72.8	77.2	68.1	77.2
315	59.1	62.5	69.1			
400	65.4	60.6	65.4			
500	66.0	62.8	66.0	70.2	67.0	70.2
630	64.8	62.9	64.8			
800	65.1	64.3	65.1			
1000	54.8	64.8	64.8	69.6	69.6	69.6
1250	64.5	65.1	64.5			
1600	63.1	64.2	63.0			
2000	61.0	62.2	60.8	66.5	67.7	66.4
2500	60.7	62.0	60.4			
3150	59.0	60.2	58.5			
4000	55.1	56.1	54.3	61.2	62.2	60.5
5000	53.0	53.5	51.7			
6300	51.5	51.4	1 9.5			
8000	51.5	50.4	48.5	57.2	55.9	54.0
10000	53.8	51.3	49.4			

OUERALL LEUELS (5 - 10000 Hz)

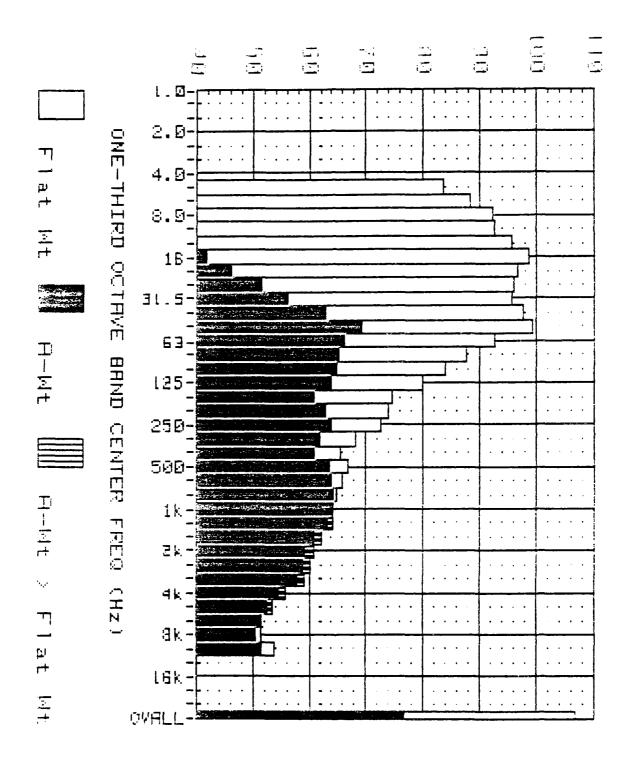


Figure 21: Measured Noise Spectrum (SPL us A-Wt Levels). Location: AZF32T-9 MSS. Ellsworth AFB SD. Station: 16 Angle: 150 Degrees: Uistance: 100 Meters Engine: (Ed): Power: Attenburner: Temp: 48 Degrees:

completely deasoned notice Spectrom Levels. Location: n.7327-9 NSS. Elisworth AFB SD.

Station: 16 Angle: 150 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(8)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-NT OCTAVE BAND SL EdB(C)3
5	83.7_	0.0	0.0			
6.3	88.4	0.0	0.0			
8	92.3	0.0	0.0	96.2	22.3	78.3
1.0	92.6	22.2	78.3			
12.5	95.6	32.2	84.4			
16	98.7	42.0	90.2	102.0	47.7	93.9
20	96.8	46.3	90.5			
25	96.1	51.4	91.7			
31.5	95.7	56.3	92.7	101.3	64.1	98.4
40	97.6	63.0	95.6			
50	99.3	69.1	98.0			
63	92.4	66.2	91.6	100.4	71.9	99.2
80	87.6	65.1	87.1			
100	84.0	64.9	83.7			
125	79.9	63.8	79.7	85.8	68.3	85.5
160	74.4	61.0	74.3			
200	73.9	63.0	73.9			
250	72.6	64.0	72.6	76.9	67.8	76.9
315	68.3	61.7	68,3			
400	65.5	60.7	65.5			
500	66.7	63.5	66.7	70.9	67.7	70.9
630	65.9	54.0	65.9			
800	64.9	64.1	64.9			
1000	64.1	64.1	64.1	69.0	68.9	69.0
1250	63.6	64.2	63.6			
1600	61.3	62.3	61.2			
2000 2500	59.5	60.7	59.3	64,8	65.9	64.6
3150	59.0	60.3	58.7			
4000	58.1	59.3	57.6	60.5		F 0 0
5000	54.6 53.0	55.6 53.5	53.8	60.5	61.6	59.8
6300	53.U 51.5	53.5	51.7			
8000			49.5	F7 2	cr o	51.0
10000	51.5 53.8	50.4 51.3	48.5 49.4	57.2	55.9	54.0

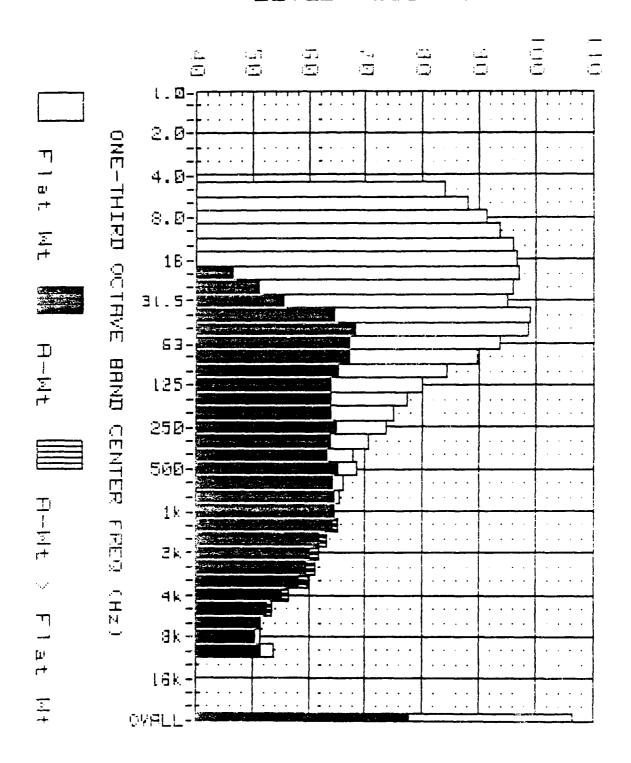
OUERALL LEUELS (5 - 10000 Hz)

08SPL = 106.5 dB

0ASLA = 77.0 dB(A)

085LC = 102.6 d8(C)

C-A VALUE = +25.6

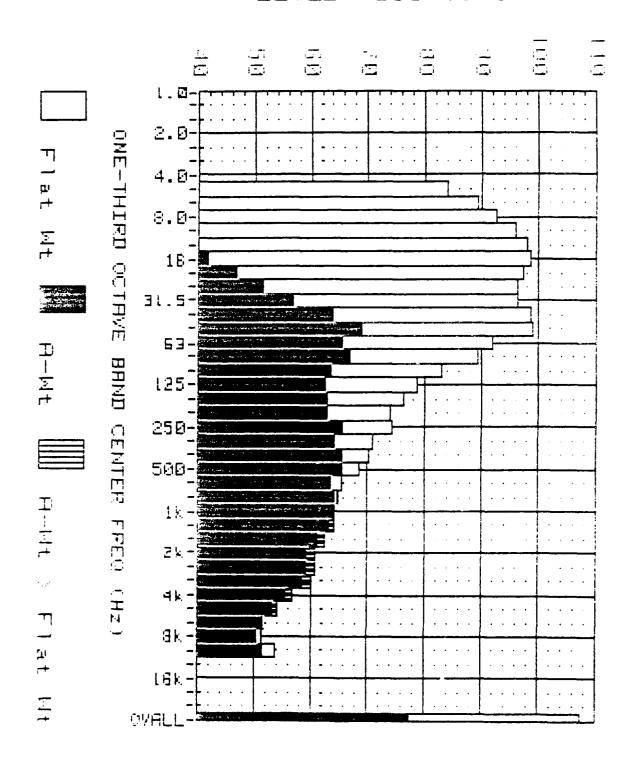


COSEC 224 Presumed House Spectrum Levels. Location: H.FS2T-9 HSS. Ellsworth AFB SD.

Station: 17 Angle: 160 Degrees: Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(U) PEAET PEAET PEAET	C-WT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	34.0	0.0	0.0		L	[
6.3	37.8	0.0	0.0			
8	91.2	0.0	0.0	96.2	23.2	79.3
10	93.6	23.2	79.3		L	
12.5	96.0	32.6	84.8	ļ		
16	96.4	39.7	87.9	101.2	47.4	93.2
20	96.8	46.3	90.6			
25	95.8	51.1	91.4			
31.5	95.1	55.7	92.1	101.8	65.2	99.1
40	99.1	64.5	97.1			
50	98.5	68.3	97.2			
63	93.5	67.3	92.7	100.1	72.4	99.0
80	89.7	67.2	89.2			
100	84.4	65.3	84.1			
125	80.0	63.9	79.8	86.3	69.2	86.1
160	77.3	63.9	77.2			
200	74.9	64.0	74.9	<u></u>		
250	73.6	65.0	73.6	78.1	69.1	79.1
315	70.5	63.9	70.5			
400	68.0	63.2	68.0		[
500	68.5	65.3	68.5	72.4	69.1	72. +
630	56.2	64.3	66.2		<u></u>	
300	65.3	64.5	65.3			
1000	64.6	64.6	64.6	69.6	69.5	54.5
1.250	64.4	65.0	64.4			
1600	62.2	63.1	62.0			
2000	60.5	61.7	60.3	65.7	66.8	65.5
2500	59.8	61.1	59.5			
3150	58.7	59.9	58.2			
4000	55.5	56.6	54.7	61.1	62.1	60.4
5000	53.0	53.5	51.7		<u></u>	
6300	51.5	51.4	49.5			
8000	51.5	50.4	48.5	57.2	55.9	54.0
10000	53.8	51.3	49.4			[]

OUERHLE LEUELS (5 = 10000 Hz)



TBLE 23: Teasured Morre Spectrum Levers. tucation: Hzf32T-9 HSS. Elisworth HUU SU.

Station: 18 Angle: 170 Degrees; Distance: 100 Meters Engine: F101; Power: Afterburner; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL CdB(A)]	C-M1 C-M1 C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-UT OCTAVE BAND SL CdB(C)]
5	33,9	0.0	0.0			
6.3	89.3	0.0	0.0			
8	92.6	0.0	0.0	98.2	25.6	81.7
10	96.0	25.6	81.7			
12.5	97.9	34.5	36.7			
16	98.7	42.0	90.2	102.8	48.3	94.5
20	97.3	46.8	91,1			
25	96.2	51.5	91.8			
31.5	96.3	56.9	93.2	101.9	65.0	99.1
40	98.6	64.0	96.6			<u></u>
50	99.0	68.8	97.7	<u> </u>		
63	91.8	65.6	91.0	100.1	72.1	99.0
80	89.3	66.8	88.8			
100	82.8	63.7	82.5			
125	78.7	62.6	78.5	84.9	67.8	84.6
160	76.2	62.8	76.1			
200	73,8	62.9	73.8			
250	74.1	65.5	74.1	77.9	69.1	77.9
315	79.9	64.3	70.9			
900	29.3	55.5	70.3	L		
500	58.7	65 .5	68.7	73.3	69.7	73.3
630	55.5	63.6	65.5			
800	64.9	64.1	64.9			
1000	<u>64.3</u>	64.3	64.3	69.1	69.0	69.1
1250	63.6	64.2	63.6			
1600	51,7	62.6	61.5			
2000	59.6	60.8	59.4	65.2	66.3	65.0
2500	59.6	60.9	59.3			
3150	59.0	60.2	58.5			
4000	55.9	57.0	55.2	61.5	62.5	60.8
5000	53.5	54.0	52.2			
6300	51.5	51.4	49.5			
8000	51.5	50.4	48.5	57,2	55.9	54.0
1 0000	53.8	51.3	49.4			

 OBSEC = 107.2 dB
 OBSEC = 77.6 dB(H)

 OBSEC = 102.9 dB(C)
 C-B UBLUE = +25.3

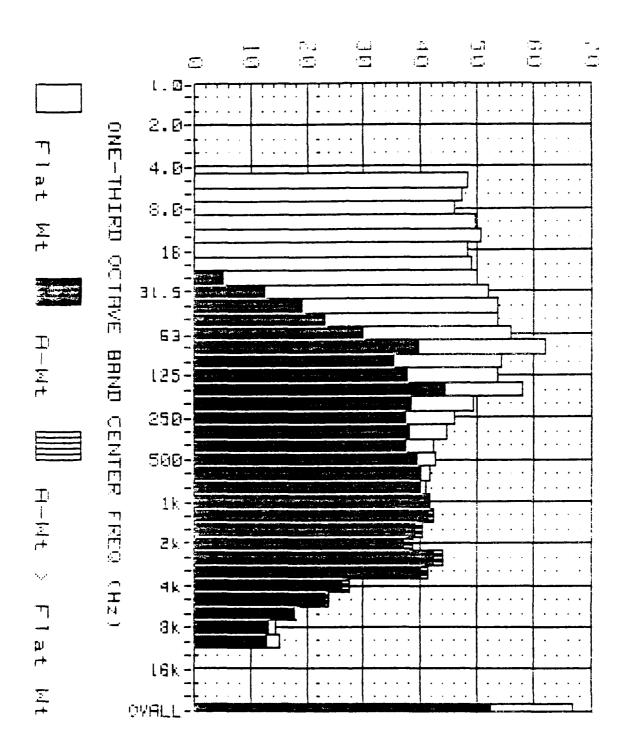


figure 24: Measured Noise Spectrum (SPL vs A-Wt Levels). Location: 87:521-9 MSS. Ellsworth AFB SD. Station: 99: Bogle: 0 Degrees; Bistance: 180 Meters From the Class Power: Background; Temp: 48 Degrees f

India 24: Assured Hoise opening Levers. Location: A/F32I-9 HSS. Ellsworth AFB SD.

Station: 00 Angle: 0 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	H-MT SOUND LEVEL EdB(A)]	C-M1 SOONO C-M1	OCTAVE BANO SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C))
5	48.1	0.0	0.0			
6.3	47.1	0.0	0.0			
8	45.8	0.0	0.0	52.6	4.8	35.3
10	49.6	0.0	35.3			
12.5	50.4	0.0	39.2			
16	48.1	0.0	39.7	54.1	4.8	45.6
20	48.9	0.0	42.7			
25	50.0	5.3	45.6			
31.5	51.9	12.5	48.9	56.9	20.1	54.2
40	53.7	19.2	51.7			
50	53.5	23.3	52.2			
63	56.1	29.9	55.3	63.5	40.1	62.9
80	62.1	39.6	61.6			
100	54.3	35.2	54.0			
125	53.5	37.4	53.3	60.4	45.6	60.2
160	57.8	44.4	57.7			
200	49.2	38.3	49.2			
250	45.8	37.2	45.8	51.8	42.6	51.8
315	44.5	37.9	44.5			
400	42.3	37.4	42.2			
500	42.4	39.2	42.4	46.9	43.7	46.9
630	41.7	39.8	41.7			
800	40.8	40.0	40.8			
1000	41.6	41.6	41.6	46.2	46.2	46.2
1250	41.7	42.3	41.7			
1600	39.1	40.1	39.0			
2000	37.2	38.4	37.0	45.0	46.2	44.7
2500	42.5	43.8	42.2			
3150	40.1	41.3	39.6			
4000	26.5	27.5	25.7	40.4	41.6	39.8
5000	23.4	23.9	22.1			
6300	17.8	17.7	15.8			
3000	14.4	13.3	11.4	20.8	29.0	18.1
10000	15.2	12.7	10.8			

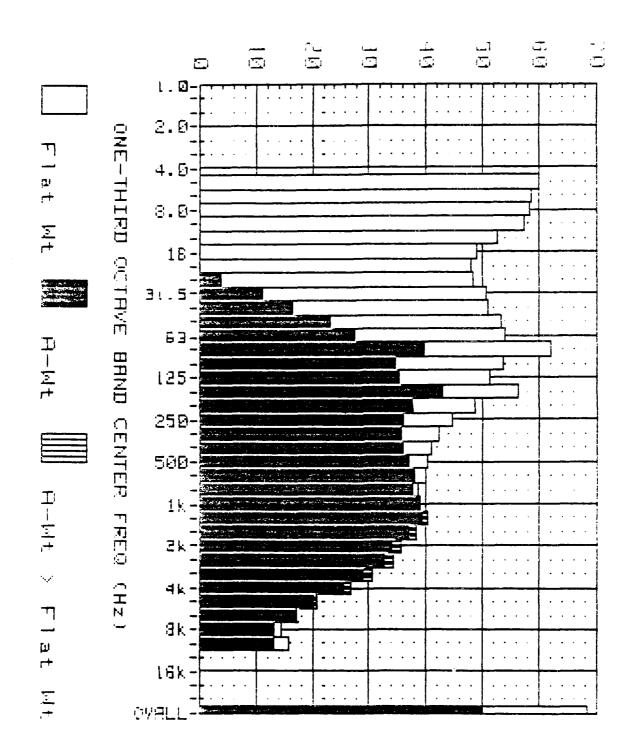


Figure 25: Measured Noise Spectrum (SPL vs A-Ut Levels). Location: HzF32T-9 NSS. Ellsworth AFB SD. Station: 01 dogie: 10 Degrees: Oistance: 100 Meters Logine: rid(; Mower: Background; lemp: 46 degrees:

cance 15: These are not a honofrem Levels. Location: Hors21-8 MSs. Elisworth HFB 50.

Station: 01 Angle: 10 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

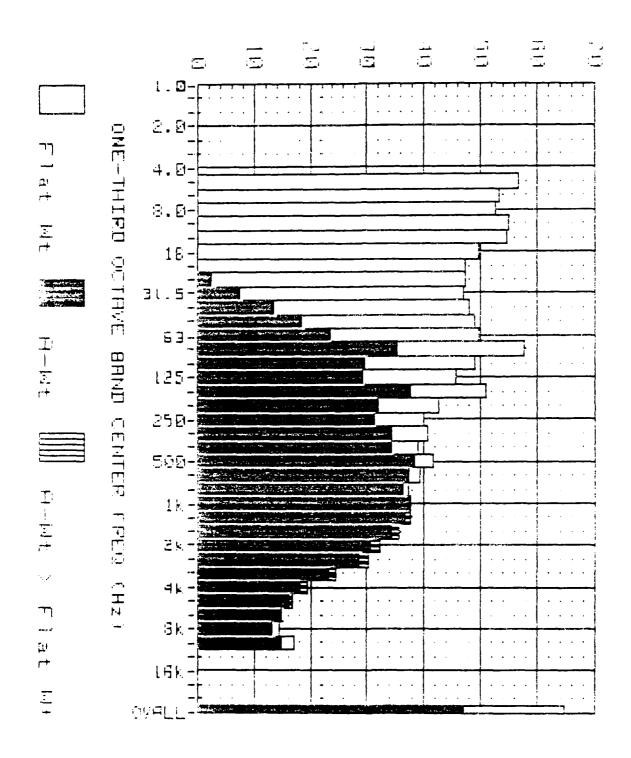
FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	EGB(U)] EGB(U)] EGB(U)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-ML BUND SF C-ML C-ML
5	59.9	0.0	0.0			
6.3	58.7	0.0	0.0			
8	58.4	0.0	0.0	62.9	4.8	42.9
10	57.2	0.0	42.9			
12.5	52.7	0.0	41.5			
16	49.0	0.0	40.5	55.2	4.8	46.0
20	47.8	0.0	41.6			
25	48.4	3.7	44.0			
31.5	50.6	11.2	47.6	54.9	17.7	52.1
40	51.0	16.4	49.0			
50	53.4	23.2	52.1			
63	53.8	27.6	53.0	63.1	39.9	62.5
80	62.0	39.5	61.5			
100	53.7	34.6	53.4			
125	51.3	35.2	51.1	59.1	44.2	58.9
160	56.4	43.0	56.3			
200	48.5	37.6	48.5			
250	44.4	35.8	44.4	50.6	41.2	50.6
315	42.3	35.7	42.3			
400	40.8	36.0	40.8			
500	40.1	36.9	40.1	45.1	41.8	45.1
630	39.9	38.0	39.9			
800	38.4	37.6	38.4			
1000	39.0	39.0	39.0	43,8	43.9	43.3
1250	39.7	40.3	39.7			
1600	37.1	38.1	37.0			
2000	34.3	35.5	34.1	39.9	41.0	39.9
2500	32.9	34.2	32.7			
3150	29.3	30.5	28.8			
4000	25.9	26.9	25.1	31.3	32.4	30.7
5000	20.3	20.8	19.0			
6300	17.2	17.1	15.2			
8000	14.4	13.3	11.4	20.7	19.7	17.8
10000	15.8	13.3	11.4			

 MHSPL
 58.2 dB

 MHSLR = 50.1 dBcH

 MHSLC
 54.7 dBcC

 C-H UHLUE = +14.6



Think 204 Considered into a problem courts. Location: ANY 521-9 ASS. Ellsworth 918 SU.

Station: 02 Angle: 20 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	EGB(C)] PEAET C-M1 C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)3
5	56.6	0.0_	0.0			
6.3	53.4	0.0	0.0			
8	52.6	0.0	0.0	58.6	4.3	40.8
10	55.1	0.0	40.8			
12.5	54.6	0.0	43.4			
16	49.5	0.0	41.0	56.4	4.8	46.8
20	47.2	0.0	41.0			
25	47.3	2.6	42.9			
31.5	46.8	7.4	43.8	52.1	14.6	49.2
40	48.0	13.4	46.0			
50	48.8	18.6	47.5			
63	49.7	23.5	48.9	58.7	35.5	58.1
80	57.6	35.1	57.1			
100	48.8	29.7	48.5			
125	45.4	29.3	45.2	53.7	38.7	53.5
160	50.9	37.5	50.8			
200	42.7	31.8	42.7			
250	39.3	31.2	39.8	46.0	37.3	46.0
315	40.7	34.1	40.7			
400	39.1	34.3	39.1			
<u> 500</u>	वा.च	38.2	41,4	44.8	41.7	44,8
630	39.2	37.3	39.2			
800	37.1	36.3	37.1			
1000	37.4	37.4	37.4	41.9	41.9	41.9
1250	37.U	37.6	37.0			
1600	34.6	35.6	34.5			
2000	30.8	32.0	30.6	36.9	38.0	36.7
2500	28.8	30.1	28.5			
3150	23.4	24.6	22.9			
4000	18.5	19.5	17.7	25.2	26.3	24.6
5000	16.4	16.9	15.1			
6300	14.8	14.7	12.8		ļ	}
8000	14.4	13.3	11.4	20.4	19.1	17.2
19000	17.2	14.7	12.8			

∂858L = 54.5 **dB** ORSLA = 47.3 3B(A) 085Lt = 50.4 aB(C)

C-A UALUE = +13.4

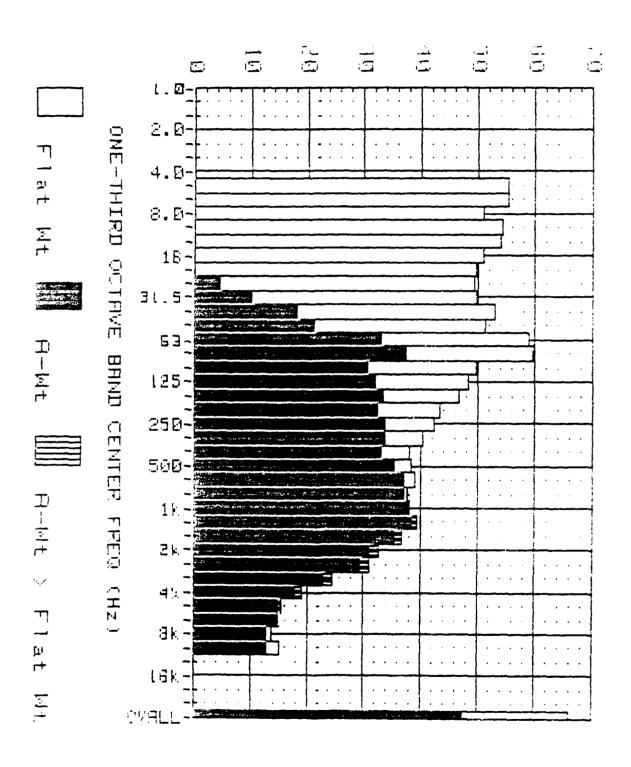


figure 27: deasured Noise Spectrum (SPL os A-Wt Leoels).
Location: d F32F-9 NSS. Elisworth AFR SD.
Listion: c and e: 30 Degrees: Utstance: f00 Meters
Logine: (10); rower: dackground: (emp: do Degrees)

เพิ่มย์ 27% (การแกลส สบาสต ออุตตกานต ยอกตาร. Lucation: m. 7321-9 MSE. Elisworth AFB SB.

Station: 03 Hngle: 30 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL Cd8(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)3
5	55.3	0.0	0.0			
6.3	55.2	0.0	0.0			
8	50.9	0.0	0.0	58.6	4.8	40.1
10	54.4	0.0	40.1			
12.5	54.0	0.0	42.8			
16	51.0	0.0	42.5	56.8	4.8	47.7
20	49.6	0.0	43.4			
25	49.1	4.4	44.7			
31.5	49.7	10.3	46.7	55.7	19.0	53.0
40	52.8	18.2	50.9			
50	51.4	21.2	50.1			
63	59.0	32.8	58.2	62.7	38.6	62.0
80	59.7	37.2	59.2			
100	49.7	30.6	49.4			
125	48.1	32.0	47.9	53.1	36.9	52.9
160	46.7	33.3	46.6			
200	43.1	32.2	43.1	·		
250	12.1	33.5	42.1	46.8	38.0	46.9
315	40,3	33.7	40.3			
400	37.8	33.0	37.8			
500	33,3	35.1	38.3	43.1	40.1	43.1
630	38,9	57.0	38.9			
800	37.6	36,8	37.6			
1000	37.9	37.9	37.9	42.8	42.8	42.3
1250	38.6	39,2	38.6			
1600	35.6	36.6	35.5			
2000	31.3	32.5	31.1	37.7	38.8	37.5
2500	29.4	30.7	29.1			
3150	23.3	24.5	22.8			
4000	18.1	19.1	17.3	24.9	26.0	24.3
5000	15.0	15.5	13.7			
6300	14.8	14.7	12.3			
8000	13.8	12.7	10.8	19.4	18.2	16.3
10000	15.2	12.7	10.8			

UHSPL = 66.1 dB onsm. = hb.! dB OhSLC = b3.3 dB(C)

OASLA = 47.5 dB(A)

C-A VALUE = +15.3

LEVEL (Becibels:

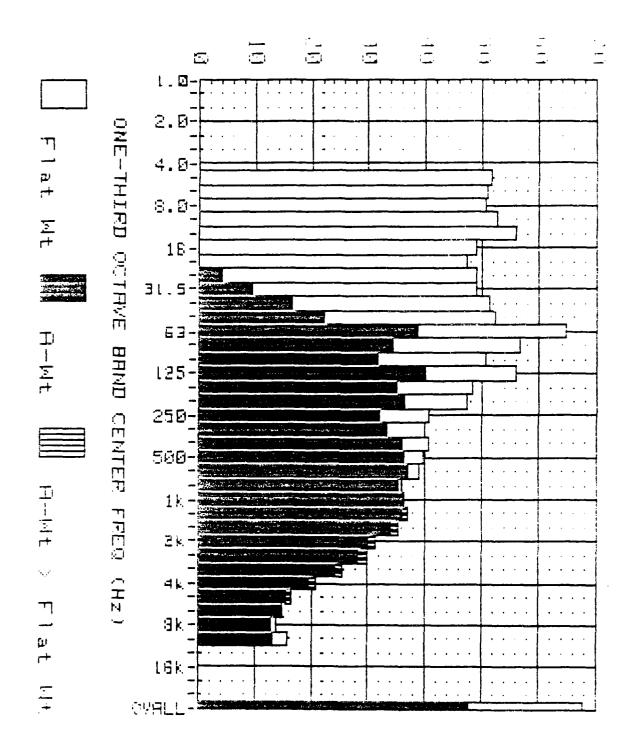


figure 28: Measured Noise Spectrum (SPL us A-Wt Levels). Location: Alf32I-9 NSS. Ellsworth AFB SD. Matter: Add Hogle: HD Degrees; Distance: 100 Meters Logine: 1.01; Mower: background; Temp: H8 Degrees f

TabLE 28: Ideasured Horse Decimin Levels. Location: 8/7321-9 NSS. Ellsworth AFB SD.

Station: 04 Angle: 40 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL [dB(A)]	C-UT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-UT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EUB(C)3
5	51.5	0.0	0.0			
$6.\bar{3}$	51.0	0.0	0.0			
8	50.6	0.0	0.0	56.2	4.8	38.2
10	52.5	0.0	38.2			
12.5	55.8	0.0	44.6			
16	49.0	0.0	40.5	57.2	4.8	47.3
20	47.3	0.0	41.1			
25	49.0	4.3	44,6			
31.5	48.9	9.5	45.9	54.6	17.6	51.3
40	51.2	16.6	49.2			
50	52.3	22.1	51.0			
63	64.8	38.6	64.0	65.6	40.0	64.8
80	56.6	34.1	56.1			
100	50.7	31.6	50.4			
125	55.9	39.8	55.7	57.6	41.5	57.4
160	48.3	34.9	48.2			
200	47.1	36.2	47.1			
250	40.5	31.9	40.5	48.6	39.0	48.5
315	39.9	33.3	39.9			
400	40.6	35.8	40.6			
500	39.4	36.2	39.4	44.4	41.1	44.4
630	38.8	36.9	38.8			
800	35.9	35.1	35.9			
1000	36.1	36.1	36.1	40.9	40.9	40.9
1250	36.3	36.9	36.3			
1600	34.2	35.2	34.1			
2000	30.1	31.3	29.9	36.4	37.5	36.3
<u> 2500</u>	28.5	29.8	28.2			
3150	24.4	25.6	23.9			
4000	19.8	20.8	19.0	26.1	27.2	25.5
5000	15.8	16.3	14.5	ļ J		
6300	14.8	14.7	12.8			
8000	13.8	12.7	10.8	19.6	18.4	16.5
10000	15.8	13.3	11.4			

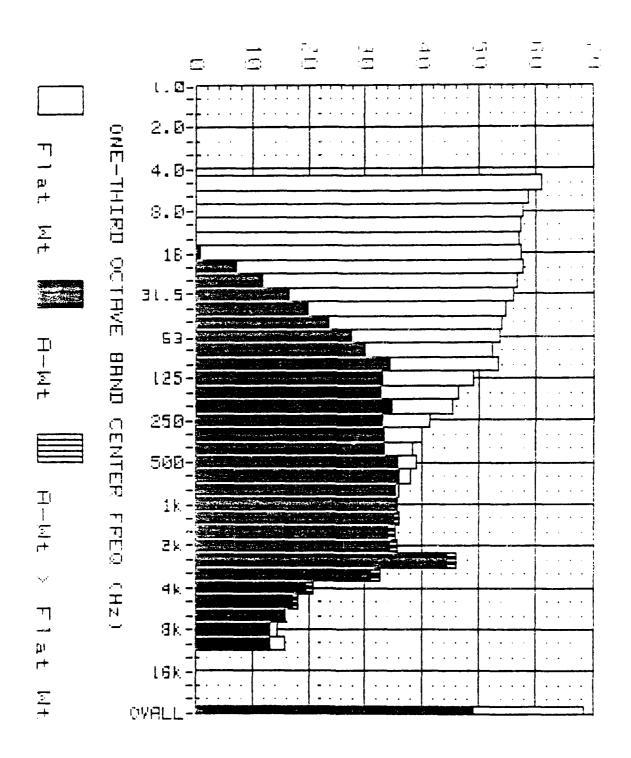
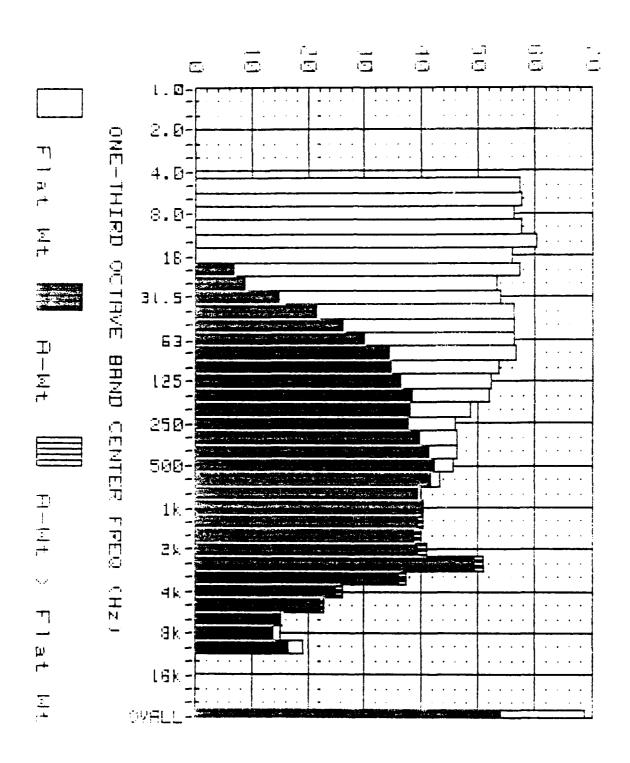


figure 29: Measured Noise Spectrum (SPL os H-Wt Levels). Location: A/F32!-9 MSS. Ellsworth AFB SD. Station: 05 Angle: 50 Degrees; Uistance: 100 Meters Sugine: (10): Power: Background: Temp: 48 Degrees (

.umic 19∓ vissum ti Meria Spectrom Genera. Epeatron: H.f321-5 MSS. clisworth M/B 3B.

Station: US Angle: 50 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-WT SOUNO LEVEL CdB(A)]	C-UT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	61.1	0.0	0.0			
6.3	58.5	9.0	0.0			
8	57.8	0.0	0.0	62.6	4.8	43.0
10	57.3	0.0	43.0			
12.5	57.1	0,0	45.8			
16	57.4	, 6	49.8	62.2	8.7	54.1
20	57.7	7.2	51.5			
25	56.5	11.9	52.2			
31.5	55.9	16.5	52.9	60.5	22.0	57.3
40	54.5	19.9	52.5			
50	53.9	23.7	52.6			
63	53.7	27.5	52.9	58.2	32.5	57.3
80	52.4	29.9	51.9			
100	53.3	34.2	53.0			
125	48.8	32.7	48.6	55.2	38.0	55.0
160	46.1	32.7	46.0			
200	45.4	34.5	45.4			
250	41.3	32.7	41.3	47.6	38.3	47.5
315	39.8	33.2	39.8			
400	38.2	33.4	38.2		·	
500	38,8	35.6	38.8	43.1	39.9	43.1
630	37.8	35.9	37.8			
800	36.0	35.2	36.0			
1900	35.5	35.5	35.5	40.4	40.3	49.4
1250	35.2	35.8	35.2			
1600	34.1	35.1	34.0			
2900	34.4	35.6	34.2	45.2	46.5	44.9
2500	44.4	45.7	44.2			
3150	31.3	32.5	30.8			
4000	19.8	20.8	19.0	31.8	32.9	31.2
5000	17.5	18.0	16.2			
6300	15.8	15.7	13.8			
8000	14.4	13.3	11.4	20.2	19.0	17.1
10000	15.8	13.3	11.4			



i.gure 50: Measured Noise Spectrum (SPL vs A-Wt Levels).
tocurron: dZF32T-9 NSS. Ellisworth HFB SD.
trion: the droie: b0 Degrees: Unstance: 100 Meters
agrama (10); rower: background: (emp: 48 Degrees)

That was it source noise spectrum benefit. Location: m./321-9 ASS. Elisworth His SD.

Station: 06 Angle: 60 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-UT SOUND LEVEL CdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BANO SL EdB(C)]
5	57.3	0.0	0.0			
6.3	57.6	ິນ. ບ	0.0			
8	56.1	0.0	0.0	62.0	4.8	43.4
10	57.7	0.0	43.4			
12.5	60.1	0.0	48.9			
16	56.0	0.0	47.5	62.9	8.2	54.1
20	57.1	5.6	50.9			
25	53.4	9.7	49.0			
31.5	54.1	14.7	51.1	59.5	22.6	56.8
40	56.3	21.6	51.2			
50	56.4	26.2	55.1			
63	56.2	30.0	55.4	61.2	36.1	60.4
80	56.7	34.2	56.2		ļ	
100	53.6	34.5	53.3	L		
125	52.2	36.1	52.0	57.4	41.4	57.2
160	51.8	38.4	51.7			
200	48.7	37.8	48.7			
250	45.0	37.4	46.0	52.0	43.2	52.0
315	46.3	39.7	46.3			
400	46.2	41.4	46.2	ļ		
500	45.4	42.2	45.4	49.9	46.5	49.9
630	45,4	41.5	43.4			
800	39.9	39,1	39.9			
1000	40.1	40.1	40.1	44.6	44.6	44.5
1250	39.6	40.2	39.6			
1600	38.8	39.8	38.7			
2000	39.5	40.3	39.3	50.3	51.6	50.0
2500	49.5	50.8	49.2			<u> </u>
3150	36.1	37.3	35.6		<u> </u>	<u> </u>
<u>4000</u>	25.1	26.1	24.3	36.5	37.8	36.1
5000	22.3	22.8	21.0			
6300 8000	15.3	15.2	13.3		76	
10000	15.0 19.1	13.9	12.0	21.7	20.1	19.2
, 0000	: 7.1	16.6	14.7			

OUERALL LEUELS (5 - 10000 Hz)

 UffSPL = 68.6 dB
 0HSLR = 54.2 dB(B)

 UHSLL = 64.4 dB(C)
 0-A UHLUE = +10.2

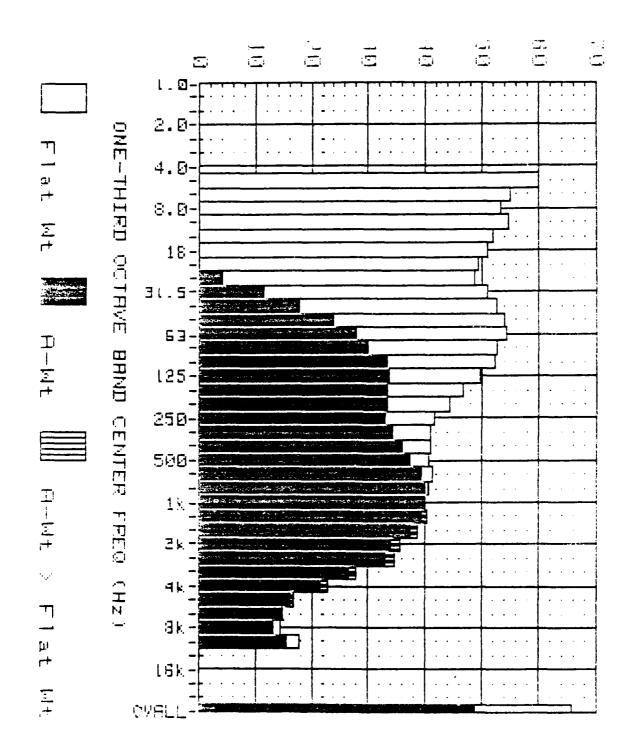


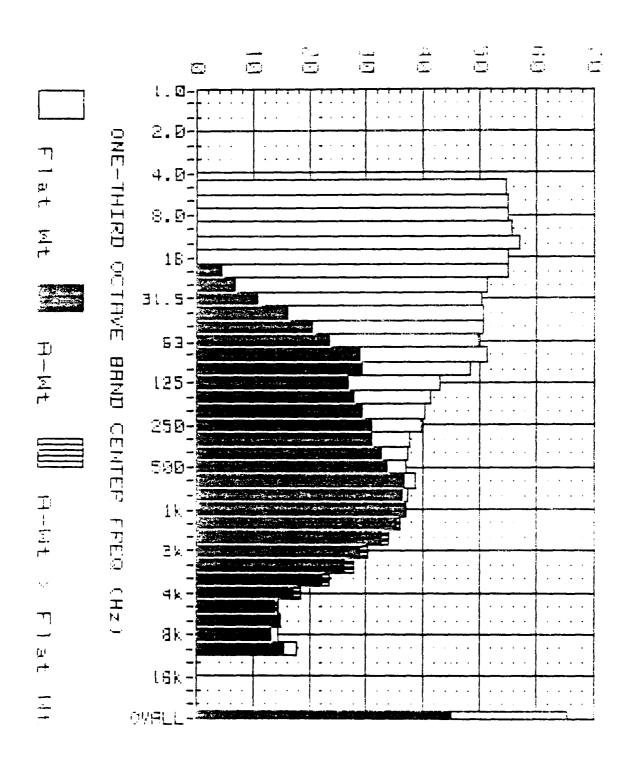
figure 31: Measured Noise Spectrum (SPL os H-Wt Levels). Location: def321-9 MSS. Elisworth Af8 SD. Station: 97 dogle: 70 Degrees: Distance: 100 Meters Location: 45 February Background: Temp: 45 Degrees:

cable of: reasured Morse spectrum Levers.
Location: My7321-9 NSS. Ellsworth HFB SO.

Station: 07 Angle: 70 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	CAB(U)]	C-WT SOUND LEVEL CdB(C)3	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)3	C-WT OCTAVE BAND SL EdB(C)]
5	59.9	0.0	0.0			
6.3	54.9	0.0	0.0			
8	53.1	0.0	0.0	59.1	4.8	40,4
10	54.7	0.0	40.4			
12,5	52.0	0.0	40.8			
16	50.3	0,0	42.3	55.7	4.8	47.0
20	49.3	0.0	43.1	·		
25	48.7	4.0	44.3			
31.5	51.0	11.6	48.0	55.7	18.9	53.0
40	52.5	17.9	50.5			
50	54.0	23.8	52.7			
63	54.2	28.0	53.4	58.4	32.7	57.5
80	52.5	30.0	52.0			
100	52.4	33.3	52.1			
125	49.7	33.6	49.5	55.0	38,2	54.7
160	46.7	33.3	46.6			
200	44.1	33.2	44.1			
250	41.4	32.8	41.4	47.2	38.3	47.2
315	40.9	34.3	40.9			
400	40.8	35.0	40.8			
500	40.5	37.3	40.5	45.6	42.5	45.5
630	41.1	39.2	41.1			ļ
800	40.5	39.8	40.5			
1 u/u 0	39.8	39.3	39.8	44.8	44.7	44,3
1250	39.5	40.1	39.5			
1600	37.5	38.6	37.5			
2000	34.3	35.5	34.1	40.2	41.4	40.1
2500	33.2	34.5	32.9			ļ
3150	26.8	28.0	26.3			
4000	21.7	22.7	20.9	28.3	29.4	27.7
5000	15.4	16.9	15.1			ļ
6300	14.8	14.7	12.8			
8000	14.4	13.3	11,4	20.8	19.3	17.4
19000	17.9	15.4	13.5			

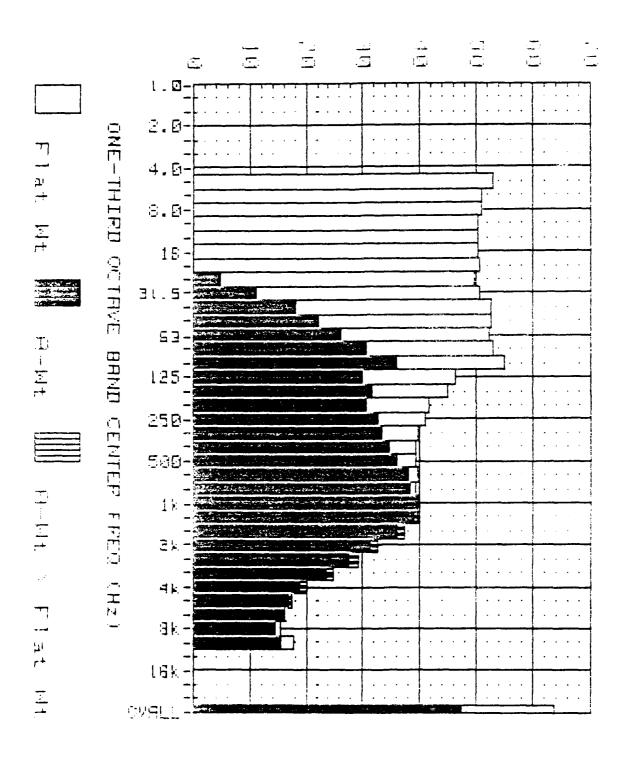
******** - 10000 Hz)***



ball (2) is somed to be spectrum tometro Location: Hz: 321-9 MSS. Elisworth AFB SB.

Station: 08 Hingle: 80 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL Cd8(A)]	CGB(C)] FENET SONND C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-WT OCTAVE BAND SL EdB(C)3
5	54.7	0,0	0.0			
6.3	54.9	0.0	0.0			
8	55.0	0.0	0.0	60.0	4.8	41.3
10	55.6	0.0	41.3		 	
12.5	57.1	0.0	45.8			
16	54.9	0.0	46.4	60.5	5. ?	51.9
20	54.8	4.3	48.6			
25	51,4	5.7	47.0		ļ	
31.5	50.2	10.3	47.2	55.5	17.6	52.5
40	50,6	16.0	48.6			
50	50.6	20.4	49.3			!
63	49.7	23.5	48.9	55.4	30.4	54.5
80	51.3	28.8	50.8			
100	48.4	29.3	48.1			
125	42.8	26.7	42.6	50.1	32.8	49.3
160	41.2	27.8	41.1			
200	40.2	29,3	40.2			
250	39.5	30.9	39.5	44.0	35.3	44.0
315	<u> 37.6</u>	31.0	37.6			
400	37.2	32.5	37.2	42.4	39.4	4
<u>500</u> 630	36.9 70.6	33.6	36.8	42.4		
800	38.5	$\frac{56.7}{76.7}$	38.6			
1900	37.1 37.0	35.3 37.0	37.1 37.0	41.3	41.2	41 2
1250	35.4	36.0	35.4			
1600	32.8	33.8	32.7			<u> </u>
2000	29.1	30.3	28.9	35.0	36.1	34.9
2500	26.7	29.0	26.3		l	
3150	22.4	23.6	21.9			
4000	17.4	18.4	16.6	24.1	25.1	23.4
_5000	14.0	14.5	12.7			
6300	14.8	14.7	12.8			
8000	14.4	13.3	11.4	20.8	19.3	17.4
10000	17.9	15.4	13.5			



egy (): 15 in the distribution condition condition conditions and aligned desired Elisworth Aligh Sign

Station: 09 Hngle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)3
5	53.0	9.9	0.0			
6.3	51.0	0.0	0.0			
8	50.9	0.0	0.0	55.5	4.8	36.1
1.0	50.4	0.0	36,1			
12.5	50.2	0.0	39.0			
16	50.3	0.0	41.8	55.1	4.3	47.1)
29	50.4	0.0	44.2			
25	49.5	4.8	45,1			
31.5	50.5	11.1	47,5	55.9	19.1	53.2
40	52.7	18,1	50.8			
50	52.5	22.3	51.2			
63	52.4	26.2	51.6	57.4	32.4	56.6
80	53,1	30,6	52.6			
100	55.1	36.0	54.8			
125	46.2	30.0	45.9	56.0	38.1	55.7
160	44.9	31.5	44.8			
200	41.5	30.6	41.5			
250	41.0	32.4	41.0	45.5	36.9	45.6
315	39,7	33.1	39.7			
400	39 3 20 0	34.5	39.3		41 1	
500	30.2	35.9 37.8	39.2	44.1	41,1	44,1
630	39.7 39.2		39.7			
800 1000	37.4	38.4 ≈9.5	39, 2 39, 5	44.0	44,0	44.3
1250	39.1	39.7	39.1	77.0		
1600	36.1	37.1	36.0			
2000	31.4	32.7	31.2	37.8	38,3	37.7
2500	27.9	29.2	27.6	91.9	39.7	
3150	23.7	24.9	23.2			
4000	19.0	20.0	18.2	25.6	26.7	24.9
5000	17.0	17.5	15.7			13.1.1
6300	15.2	16.1	14.2			
ខ្មាក្យា	15.5	14.4	13.5	21.4	29.1	13. :
1900))	17.4	15.4	13.5			

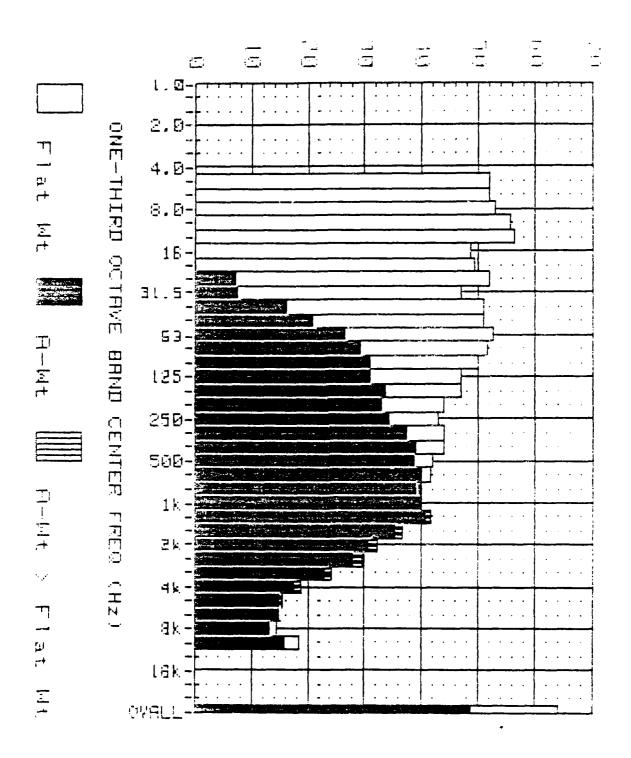


Figure 34: Measured Noise Spectrum (SPL us H-Wt Levels). Cocation: H.F32T-9 NSS. Ellsworth HFB 50. Charton: H. Meale: M. Degrees: Distance: 100 Merers Cochoo: C. C. Wwer: Dackground: Fomp: HY Begrees F

location: dissense messa Spectrum Levels. Location: dif321-9 HSS. Ellsworth HFB SB.

Station: 10 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL EdB(A)]	C-M1 SONND FEAET CGB <c>3</c>	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)3
5	51.9	0.0	0.0 -			
6.3	52,0	0.0	0.0			
8	53.0	0.0	0.0	58.6	4.8	41.3
10	55.5	0,0	41.3			
12.5	56.2	0.0	45.0			
16	48.5	0.0	40.0	57.6	4.8	47.9
20	49.2	0.0	43.0			
25	51.9	7.1	47.4		ļ	
31.5	46.9	7.5	43.9	55.1	17.2	51.9
40	50.8	16.2	48.8		<u> </u>	
50	50.9	20.7	49.6		ļ	<u></u>
63	52.7	26.6	52.0	56.6	31.4	55.8
80	51.6	29.1	51.1			
100	50.0	30.9	49.7			
125	46.9	30.8	46.7	53.0	36.7	52.7
160	46.8	33.4	46.7			
200	43.8	32.9	43.8			
250	43.0	34.4	43.0	48.4	40.0	48.4
315	43.9	37.3	43.9		<u> </u>	
<u>400</u>	43.8	39.0	43.8			
500	41,4	38.7	41.9	47.4	44.0	47.4
630	41.7	39.8	41.7	·		
900	39.5	38.8	39.6	11.0	<u> </u>	
1000	<u> </u>	39.7	39.7	44.8	44.9	44.3
1250	40.8 35.5	41.4	40.8			
1600 2000		36.6	35.5	37.4	38.5	37.3
2500	30.8	32.0	30.6	36.7	38.3	3(.3
2500 3150	<u>28.2</u> 23.1	29.5 24.3	27.9 22.6			
4000	17.8	18.8	17.0	24.7	25.8	24.1
5000	15.0	15.5	13.7	47.1	43,0	47.
6300	14.3	14.7	12.8		<u> </u>	
8000	14.4	13.3	11.4	21,1	19.6	17,7
10000	18.5	16.0	14.1	41.1	1.7.9	

************ 10000 Hz)***

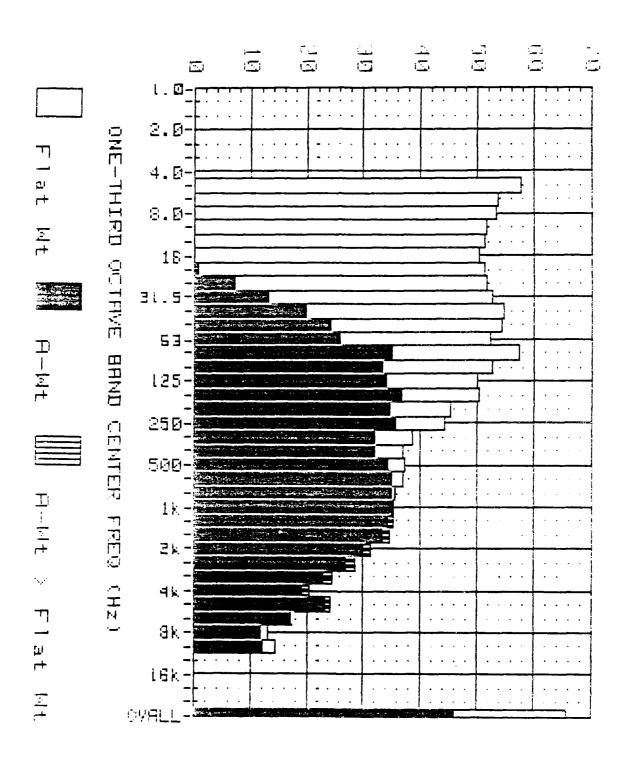
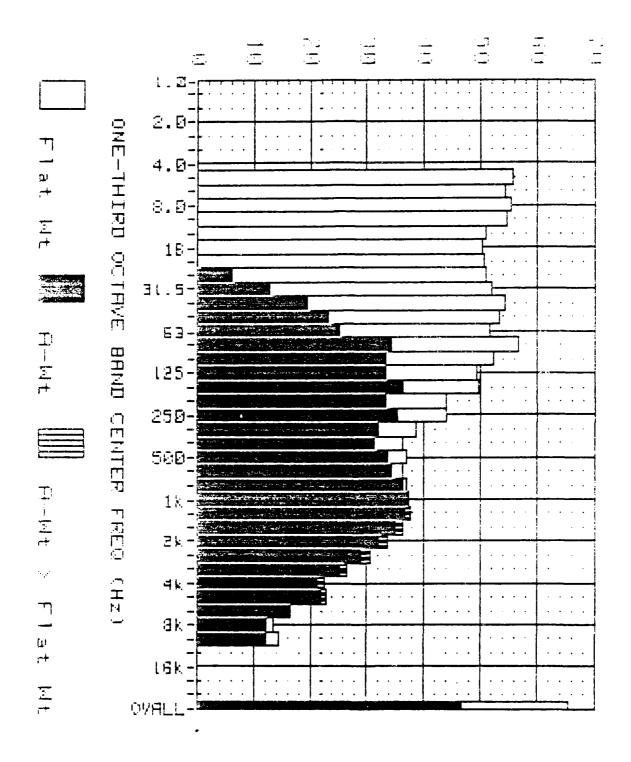


figure 35: Measured Noise Spectrum (SPL us A-Wt Levels). Location: HPF32T-9 MSS. Elisworth HFB SD. Profice: (U. pogle: 90 Degrees: Distance: 100 Meters togine: (10): rower: packground: Temp: 10 Degrees (

Table 734 deserve topics apportrom Levela. Location: H.7327-9 MSS. Ellisworth HFB SU.

Station: 10 Angle: 90 Degrees; Distance: 100 Meters Engine: f101; Power: Background; Temp: 48 Degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB <a>3	C-WT SOUND LEVEL CdB(C)3	OCTAVE BAND SPL (dB)	R-WT OCTAVE BAND SL CdB(R)]	C-WT OCTAVE BAND SL CdB(C)]
5	57.8	0,0	0.0			
6.3	53.4	0.0	0.0			
8	53.3	0.0	0.0	57.6	4.8	37.2
10	51.4	0.0	37.1			
12.5	51.3	0.0	40.1			
16	50.4	9.0	41.9	55.8	5.1	47.5
20	51.3	. 8	45.1			
25	51.7	7.0	47.3			
31.5	\$2.5	13.2	49.6	57.9	21.0	55.1
40	54.6	20.0	52.6			
50	54.3	24.1	53.0			
63	52.1	26.0	51.4	59.9	35.7	59.1
80	57.3	34.8	56.8		<u> </u>	
100	52.5	33.4	52.2			
125	50.0	33.9	49.8	55.8	39.7	55.6
160	50.1	36.7	50.0			
200	45.4	34.5	45.4	40.7		10. 3
250	44.1	35.5	44.1	48.3	39.0	48.3
315	38.4	31.8	38.4			
400	36.8	32.0	36.8			
500	37.3	34.1	37.3	41.8	<u> 38. 6</u>	41.8
630	36.8	34.9	<u> 36.8</u>			
800	35.6	5 4 .8	35.5	40.0	70.0	40.0
1000 1250	35.2 34.7	35.2 35.3	35,2	40.0	39.9	40.0
1600	33.6	39.6	34.7 33.5		 	····
2000	30.1	31.3	29.9	35.9	37.0	35.?
2500	27.2	28.5	26.9	33.3	34.4	33.1
3150	23.2	24.4	22.7			
4000	19.4	20.4	18,6	27.2	28.1	26.3
5000	23.6	24.1	22.3		<u> </u>	<u> </u>
6300	17.2	17.1	15,2			
8000	13.0	11.9	10.0	20.1	19.2	17.3
10000	14.6	12.1	10.2			

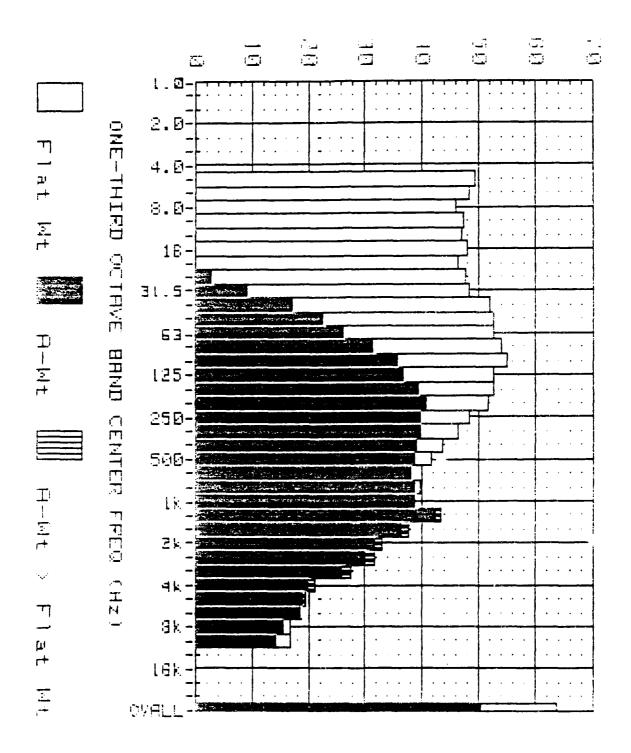


Ciqure 56: Heasured Noise Spectrum CBPL os H-Wt Levelor.
Location: H. M327-9 NSS. Ellsworth HFB SD.
Mation: Ed angle: 90 Degrees: Distance: 100 Meters
Figure: Edit Power: Background: Temp: 48 Degrees C

. Noti in- topour a neck typesterm typeis. cocation: m.fb21-d dS5. Elipworth Ht8 S8.

Station: 10 Angle: 90 Degrees; Distance: 180 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-UT SOUND LEVEL CdB(A)]	C-M1 CAB(C)] C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-ML OCTANE BAND ST C-ML
5	55.?	0.0	9,0			
6.3	54.2	0.0_{-}	ູນ, 0			
8	55. <i>4</i>	0.0	0.0	59.5	4.8	40.3
10	54.6	0.0	40.3			
12.5	51.1	0.0	39.9			
16	50.3	0.0	41.8	55.5	4.8	47.2
20	50.7	, 2	44.5			
25	50.9	5.1	46.5			
31.5	52.1	12.7	49.1	<u>57.4</u>	20.6	54.7
40	54.2	19.6	52.2			
50	53.3	23.1	52.0			
63	51.5	25.3	50.7	59.1	34.9	58.3
80	56.6	34.1	56.1			
100	52.4	33.3	52.1			
125	49.3	33.2	49.1	55.5	39.3	55.3
160	49.7	36.3	49.6			
200	44.0	33.1	44,0			
250	43.9	35.3	43.9	47.5	38.4	47.5
315	38.5	31.9	38.5			
400	35.1	31.3	36.1			
<u>560</u>	35.8	33.6	36.8	41.2	58.1	41.0
630	36.3	34.4	36.3			
800	37.0	36.2	37.0			
1000	37.3	37.3	37.3	41.8	41.8	41.3
1.250	36.8	37.4	36.8			
1600	35.2	36.2	35.1			
2000	32.2	33.4	32.0	37.7	38.8	37.5
2500	29.4	30.7	29.1			
3150	25.4	26.6	24.9			
4000	21.5	22.5	20.7	28.2	29.2	27.4
5000	22.3	22.8	21.0	<u> </u>		
6300	15.4	16.3	14.4			
8000	13.4	12.3	10.4	19.7	18.3	16.9
10000	14.5	12.1	10.2			



ingure 37: Measured Noise Spectrum (SPL us A-Ut Levels).
Location: H:1321-9 MSS. Elisworth HEB SD.
Province: Province: 100 Degrees; Province: 100 Meter.
Engine- (10); Power: background: Temp: To Degree.

Station: 11 Angle: 100 Degrees: Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	648(4) E48(4) E48(4)	C-M1 SOUND LEVEL C-W1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)3
5	49.3	0.0	0.0			
6.3	48.1	0.0	0.0			
8	45.9	0.0	0.0	52.0	4.8	33.0
10	47.3	0.0	33.0			
12.5	47.0	0.0	35.7			
16	47.9	0.0	39,4	51.9	4.3	43.5
29	46.3	0.0	40,1			
25	47.5	2.8	43,1			
31.5	48,4	9.0	45.4	54.4	18.0	51.8
40	51.9	17.3	49.8			
50	F2.6	22.4	51.3			
63	52.5	25.3	51.7	57.8	32.9	57.Q
80	53.8	31.3	53.3			
100	54.8	35.7	54.5			
125	52.6	36.5	52.4	58.2	42,2	58.0
150	52.6	39.2	52.5			
200	51.6	40.7	51.5			
250	48.1	39.5	48.1	54.0	44.8	54.0
315	45.3	39.7	46.3			
400	43.7	38.9	43.7			
500	41.7	38.5	41.7	46.8	43.3	46.3
630	39.9	33.0	39.9			
800	39.4	38.7	39.4			
1900	33.5	38.5	38.6	45.3	45.4	45.3
1250	42.5	43.1	42.5			
1600	36.4	37.4	36.3			
2000	31.7	32.9	31.5	38.4	39.5	38.2
2500	30.2	31.5	29.9			
3150	26.3	27.5	25.8			
4000	20.3	21.3	19.5	27.9	29.0	27.2
5000	19.1	19.6	17.8	,		
6300	13.6.	18.5	16.5			
8000	16.7	15.5	13.7	22.2	21.2	19.3
10000	16.8	14.3	12 .4			

0ASPL = 53.5 dB 0ASLC = 52.2 dB(C) OASLA = 50.5 d8(A) C-A DALUE = +11.6

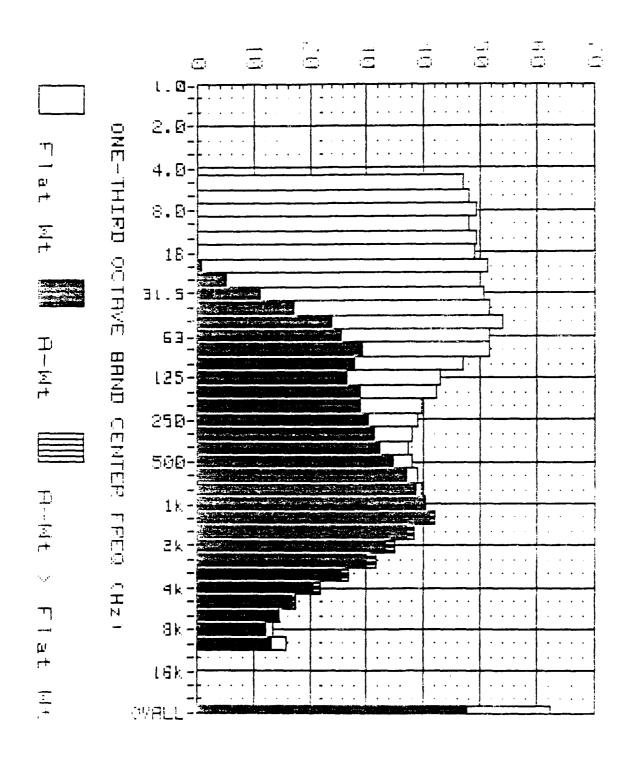


figure 38: Measured Noise Spectrum (SPE os A-Wt Levels). Location: A/F32T-9 NSS. Elisworth AFB 3D. Shiftion: () Angle: No Degrees; Distance: 198 Meters Englise: (1865 - Mower: Gaukground: Temp. +5 degree.)

late id: . Proving modes Spectrum condit.
cocation: d.tdlt=4 855. filsworth_HfB 58.

Station: 12 Angle: 110 Degrees: Distance: 100 Meters Engine: F101: Power: Background: Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%: Winds: 8 Knots

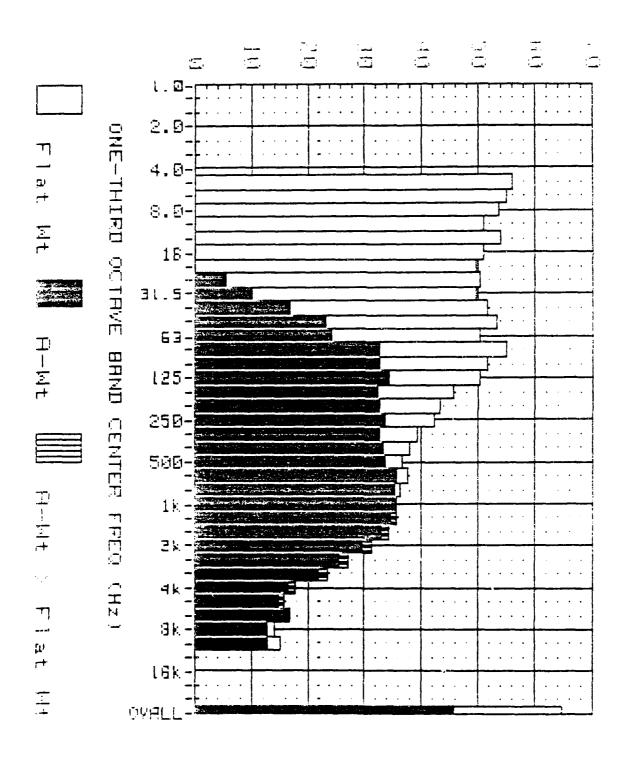
FREQ (Hz)	SOUNO PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)3
5	47.0	0.0	0.0			
6,3	48.0	0.0	0.0			
8	49.4	0.0	0.0	53.2	4.8	33.5
10	47.8	0.0	33.5			
12.5	49.4	0.0	38.2			
16	49.1	0.0	49.6	54.8	5.1	47,0
20	51.3	.8	45.1		· · · · · · · · · · · · · · · · · · ·	
25	49.8	5.1	45.5			
31.5	50.6	11.2	47.6	55.5	18.3	52.7
40	51,7	17.1	49.7			
50	54.1	23.9	52.8			
63	51.6	25.4	50.8	57.4	31.5	56.5
80	51.7	29.2	51.2			
100	47.0	27.9	46.7			
125	42.7	26.7	42.5	49.3	32.7	49.1
160	42.3	28.9	42.2			
200	39.7	28.8	39.7			
250	38.9	30.3	38.9	43.7	35.0	43.7
315	37.8	31.2	37.8			
460	37.1	32.3	37.1			
<u> 500</u>	37.9	34.7	37.9	42.8	39.8	42.8
630	38.8	36,9	38.8			
300	39.4	38.7	39,4			
1000	40.2	40.2	40.2	45.1	45.2	45.1
1250 1600	11.2	41.8	41.2			
2000	37,1 33,7	38.1 34.9	37.0	70.7	40.4	70. 2
2500 2500	30.4	31.7	33.5 30.1	39.3	40.4	39.2
3150	25.8	27.0	25.3			
4000	20.8	21.8	20.0	27.4	28.5	26 0
5000	17.0	17.5			28.5	26.8
6300	14.6	14.5	15.7 12.6			
8000	13.4	12.3	10.4	10.5	10.2	1.0 2
10000	15.8	13.3	11.4	19.5	18.2	16.3

9H5PL = 62.1 dR

OHSLH = 47.8 (B(H)

9851.0 > 59.3 **48**€05

C-A UALUE = +11.4



tiqure 39: Measured Hoise Spectrum (SPL os H-Ut Levels).
cocution: HzF32f-9 MSS. Elisworth AFB SB.
cotion: US Angle: 120 Degrees: Distance: 100 Meters
espace: Compare: Gausground: Compare: Compare

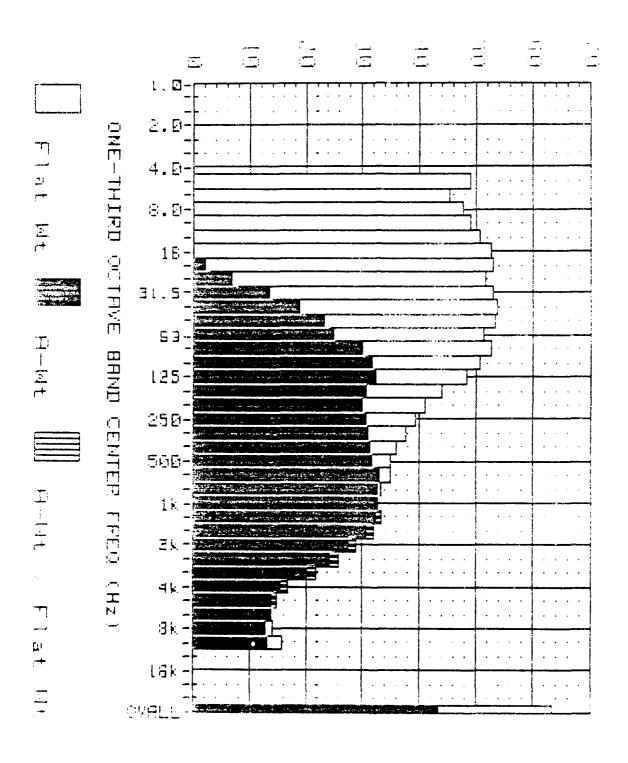
Times 89: I thought there is perform comedition Location: 9 (32)-9 988. clibworth Mfb 80.

Station: 13 Angle: 120 Degrees; Distance: 190 Meters Engine: f101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-M1 C-M1 C-M1	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BANO SL EdB(C)3
5	56.1	0.0	0.0			
6.3	54.9	0,0	0,0			
8	53.6	0.0	0.0	58.2	4.8	36.7
10	51.0	0.0	36.7			
12.5	53.8	0.0	42.5			
16	50.9	0.0	42.4	56.6	4.9	47.5
20	49.5	0.9	43.3			
25	50.3	5.5	45.9			
31.5	49.6	10.2	46.6	55.3	18.0	52.4
40	51.6	17.0	49.6			
50	53.4	23.2	52.1			
63	50.4	24.2	49.6	58.1	33.5	57.3
80	55.0	32.5	54.5			
100	51.7	32.6	51.4			
125	50.3	34.1	50.0	54.6	37.9	54.4
160	45,7	32.3	45.6			
200	43,4	32.5	43.4			
250	42.1	33.5	42.1	46.7	37.7	45.7
31.5	39.3	32.7	39.3			
400	37.9	33.1	37.9			
500	36.7	33.5	36.7	42.1	38.9	42.1
6:0	37.4	35.5	37.4			
800	36.1	35,4	36.1			
1000	35.6	35.6	35.6	40.3	40.3	40.3
1250	34.8	35 1	34.8			
1600	33.3	34,3	33.2			
2000	30.0	31.2	29.8	35.5	36.5	35.3
2500	25.8	27.1	25.5			
3150	22.3	23.5	21.8			
4000	17.0	18.0	16.2	24.0	25.1	23.4
5000	15.3	15.8	14.0			
6300	16,7	16.6	14.7			
8000	14.0	12.9	11.0	20.2	19.2	17.3
10000	15.2	12.7	19.3			

0ASLA = 45.7 dB(A) HMSPL = Wt. B aB 08500 = 00.5 dB(0)

- C-A MALUE ≈ +14.8



ingure 40± decembed Moise Spectrum (Set us H-Ut Louels). Colorion: H 0321-9 MSS. Elloworth H49 30. Colorion: Colorofo: D30 Degrees: Coloron.co. Tool Meters (44 M4). Coloron-World County County: Comp. To Moycette.

the way of any more approximations. It is worth with all the

Station: 14 Hngle: 150 Degrees: Distance: 100 Meters Engine: F101: Power: Background: Temp: 48 Degrees F

Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL EdB(A)]	C-MT SOUND LEVEL	OCTAVE BANO SPL (dB)	A-WI OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB <c>3</c>
5	48.9	0.0	ე. ი			
6.3	45.4	0.0	0.0			
8	47.5	0.0	0,0	52.3	4.8	34.5
10	48.8	0.0	34.5			
12.5	50.7	0.0	39.5			
16	52,5	0.0	44.0	56.8	5.7	49.0
20	50.9	2.3	45.6			
25	51.5	5.8	47.1			
31.5	52.9	13.5	49.9	57.5	20.2	<u>54.6</u>
40	53.6	19.0	51.6			
50	53.4	23.2	52.1			
63	51.1	24.9	50.3	57.2	31.8	56.3
80	52.5	30.0	52.0			
100	50.7	31.6	50.4			
125	48.2	32.2	48.0	53.2	36.3	53.0
160	44.0	30.6	43.9			
200	40.8	29.9	40.8			
250	39.3	30.7	39.3	44.2	35.3	44.2
315	37.4	30.8	37.4			
400	35.9	31.1	35.9			
500	3, 9	31.7	34.9	40.0	<u>36.8</u>	40.0
630	34.9	33.0	34,9			
306	33,3	32.5	33.3			
1000	32.6	32.6	32.6	37.6	37.6	37.5
1250	32.7	33.3	32.7			
1600	30.8	31.8	30.7			
2000	27.8	29.0	27.5	33.2	34.3	33.0
2500	24.6	25.9	24.3			
3150	20.5	21.7	20.0			
4000	15,7	16.7	14.9	22.5	23.5	21.8
5000	14.3	14.9	13.0			
6300	14.0	13.9	12.0			
3000	14.0	12.9	11.0	19.4	18.1	16.2
10000	15.8	13.3	11.4			

OFERALL LEVELS (5 - 10000 Hz)

 0HSPL = 63.2 dB
 0HSLA = 43.5 dB(A)

 0HSLC = 50.2 dB(C)
 0HSLA = 43.5 dB(A)

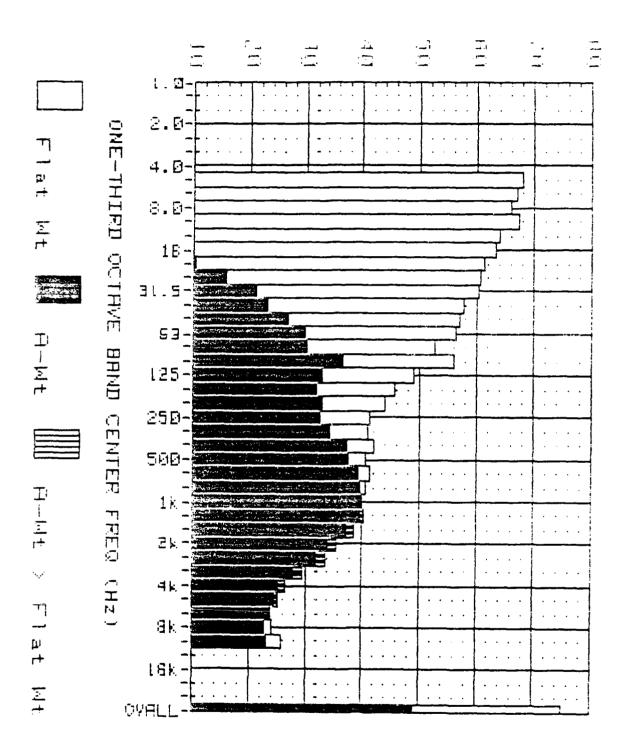


figure 41: Measured Moise Spectrum (SPE us A-Wt Levels). Location: 8/F32T-9 NSS. Ellisworth AFB SD. Station: 10 Angle: 90 Degrees: Oistance: 100 Meters Engine: Fibli: Power: Background: remp: 48 Degrees (

table fir transmed messe Spectrum Levels. Location: m/f321-9 MSS. Elisworth mfB SD.

Station: 10 Angle: 90 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (UB)	A-MT SOUND LEVEL CAB(A)]	C4B(C)] LEVEL C4B(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)J	C-MI OCTAVE BAND SL CAB(C))
5	57.9	0.0	0.0			
6.3	67.0	0.0	0.0			
8	66,0	0.0	0.0	71.5	4.8	52.9
10	67.2	0.0	52.9			
12.5	63,9	. 5	52.6			
16	63,4	6.7	54.9	67.7	12,4	59.0
20	51.1	10.6	54.9			
. 25	<u>60.6</u>	15.9	56.2			
31.5	60.4	21.0	57,4	64.5	25.7	61.3
40	57.8	23.1	55.7			
50	57.0	26.8	55.7			
63	56.1	29.9	55.3	60.4	33.9	59.4
80	52.6	30.1	52.1			
100	55.8	36.7	55.5			
125	48.8	32.7	48.6	56.9	39.1	56.6
160	45.4	32.0	45.3			
200	43.8	32.9	1 3.8			
250	41.1	32.5	41.1	45.9	38.0	46.9
315	40. લ	34.1	40.8			
400	41.9	37.1	41.9		<u> </u>	
500	+0.6	37.4	40.6	45.0	42.8	46.1)
630	41.2	39.3	41.2			
800	40.4	39.6	40.4			
1000	39.6	39.6	39.6	44.7	44.6	94.7
1250	39.8	40,4	39.8			
1600	37.7	38.7	37.6			
2000	34.3	35.5	34.0	40.1	41.2	39.9
2500	32.2	33.5	31,9			
3150	28.3	29.5	27.8			
4000	25.6	26.6	24.8	31.2	32.2	30.5
5000	24.6	25.2	23.3			
6300	23.8	23.7	21.8			
8000	24.0	22.9	21.0	29.4	23.1	25.2
1 0000	25.3	23.3	21.4			

******** - 19000 Hz:***

085PL = 74.9 dB 085LC = 65.8 dB<C> - OHSER = 49.1 dB(A) C-A UALUE = +15.7

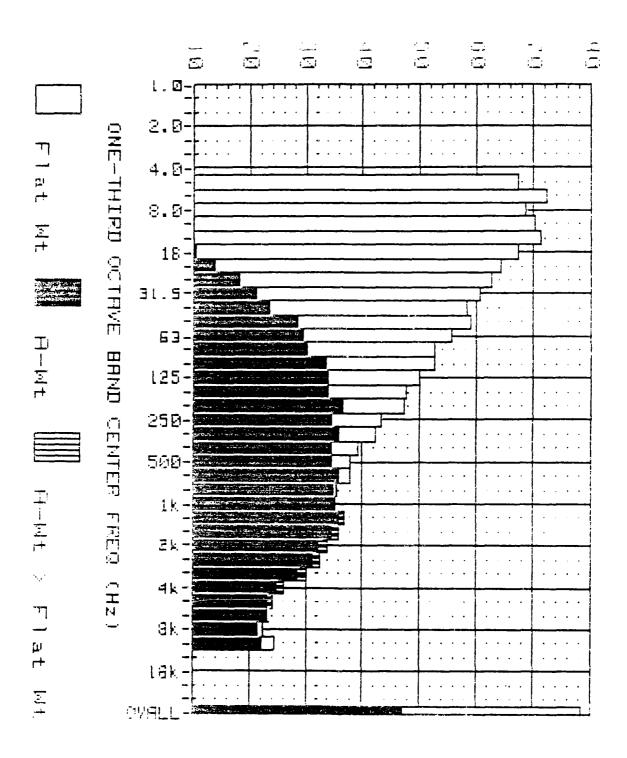


Figure 42: Measured Noise Spectrum (SPI os A-Wt Levels). Education: H.F32I-9 MSS. Ellisworth HFB SD. Parion: 's Engle: (20 Degrees: Distance: 100 Meters Education: (5.1): Mower: background; (comp. 48 Degree) (

lem. (1) Perchas motor specifical general general substance of School and Sch Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)]	C-M1 SOUND LEVEL CGB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL CdB(C)3
5.	b7.2	11.0	0.0			
6. 1	72.3	0.0	0.0			
3	58.7	0.0	0.9	75.4	4,8	55.9
10	70.2	0.0	55.9			
12.5	71.3	7.9	60.1			
16	67.2	10.5	58.7	73.3	16.1	63.8
- 20	64.2	13.7	58.0			
25	<u>62.8</u>	18.0	58. 1			
31.5	60.5	21,1	57.5	65.6	26.2	62.2
40	58.2	23,6	56.2			
50	58.8	28.6	57.5			
63	55.7	29.5	54.9	61,2	34.3	60.2
80	52.7	30.2	52.2			
100	52.5	33.4	52.2			
125	49.8	33,7	49.6	55.2	38.5	54.9
150	47.4	34,0	47.3		L	<u> </u>
200	47.3	36.4	47.3			
250	43.1	34.5	43.1	49.6	40.4	49.6
315	4.3.3	35.7	42.3			ll
460	39,2	34.4	<u> 39. 2</u>			
500	37.8	34.5	37.8	43.1	39.8	43.1
<u> 530</u>	37.9	36.0	37.9			
800	35.6	34.8	35.6			
1000	35.1	35,1	35.1	40.4	40.4	40.4
1250	36.1	36.7	36.1			
1600	34.9	35.9	34.8			
2000	32.5	33.8	32.3	37.9	39.1	37.8
2500	31.4	32.7	31.0			
3150	28.8	30.0	29.3			
4000	25.2	26.2	24.4	31.2	32.2	30.5
5000	23.6	24.1	22.3			
6300	23.2	23.1	21.2			
8000	22.6	21.5	19.6	28.3	27.1	25.2
15000	24.6	22.1	20.2			

#HSPL = 78.2 dB *#HSPL = 67.7 dB(€)

0ASLA ≈ 47.2 a8(A)

€-8 UALUE = +20.6

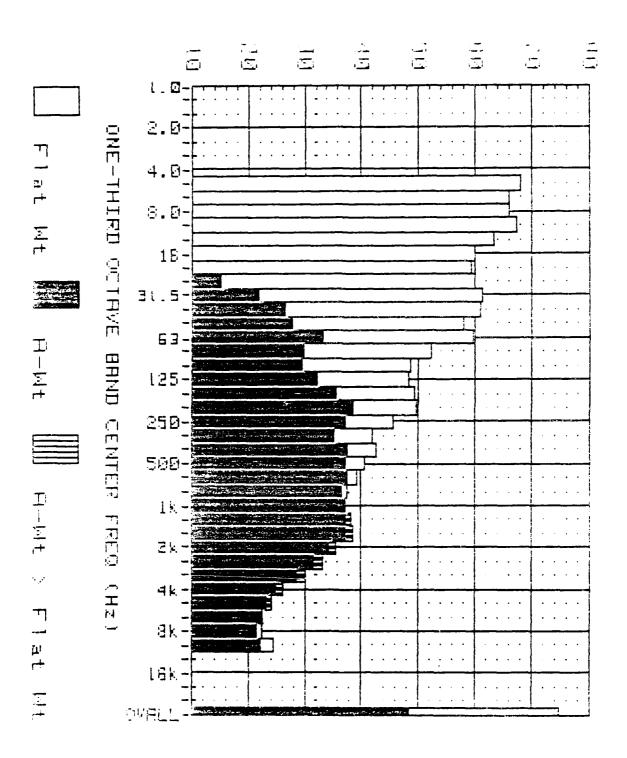


Figure 45: Measured Noise Spectrum (3PL os A-Wt Levels) Location: #3321-9 MSS. Ellsworth Af8 SD. Location: #001000 F30 Degrees; Distance: 100 Merers chaine: (10): Hower: Background; (emp: 46 Degrees)

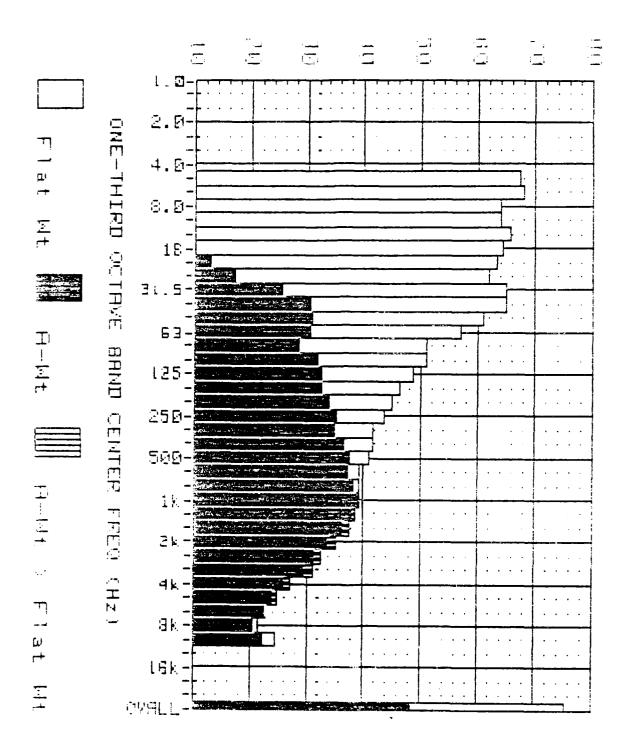
Higher than the control of the contr

Station: if Hngle: 130 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL EdB(A)3	C-MT SOUND LEVEL	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdBKC+3
5	63.1	0.9	0.0			
6,3	65.1	0,0	0.0			
ઇ	55.0	0.0	0.0	71.3	4.8	53.0
1.9	67.3	9.0	53.0			
12.5	63.4	0.0	52.1			
15	50. O	3.3	51.5	66.0	10.2	57.0
20	59.1	3.6	52.9			
25	59.9	15.1	55.4			
31.5	61.1	21.7	58.1	65.4	27.9	62.5
40	61.0	26.4	59.0			
50	57.9	27.7	56.6			
63	59.5	33.3	58,7	62.2	35.6	61.3
80	52.2	29.7	51.7			
100	48,5	29.4	18.2			
1.25	48.3	32.2	48.1	53. 1	38.0	53.2
160	49.1	35.7	49.0			
200	49,4	38.5	49.4			
2511	45.7	37.1	45.?	51,4	41.9	51.4
315	41.54	35.2	41.8			
<u>49)))</u>	10.4	37.6	42.4			
<u>500</u>	40,4	37.2	40.4	45.7	42.2	45.7
<u> </u>	39.3	37.4	39.3			
800	37.4	36.5	37.4			
1.000	37.2	37.2	37.2	42.1	42.1	40.1
1/50	37.5	38.1	37.5			
1500	37.5	38.5	37.3			
2000	34.4	35.6	34.2	39.9	41.1	39.8
2500	31.9	33.2	31.6			
3150	28.8	30.0	28.3			
4000	25.2	26.2	24.4	31.2	32.2	30.5
5000	23.6	24.1	22.3			
6300	22.4	22.3	20.4		· · · · · · · · · · · · · · · · · · ·	
3000	22.6	21.5	19.5	28.1	25.8	24.9
10000	24.5	22.1	20.2			

****##ERALL LEVELS (5 - 10000 Hz)***

Helind (74.7 a8 HRSLC (55.3 a8+0) - UASEA = - 48.7 UBCAN - C-A UALUE = +17.6



Eigure 44: Measured Hoise Spectrum (SPL os H-Ut Levels). Location: 8/F32T-9 MSS. Elisworth AFB SD. Tition: 1. dugle: 140 Degrees: listance: 100 Deters Lucion: 1. dugle: Background: compt de Degrees 1 Location: a. 9321-9 MSS. Elisworth AFB SD.

Station: 15 Angle: 140 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB <a>J	C-WT SOUND LEVEL EdB(C)J	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL CdB(A)]	C-WT OCTAVE BAND SL EdB(C)]
5	57.4	0.0	0.0			
6.3	67.8	0.0	0.0			
8	64.0	0.0	0.0_{-}	70.4	4.8	49.5
10	63.9	0.0	49.6			
12.5	65.4	2.0	54.2			
16	64.4	7.7	55.9	69.3	14.3	50.7
20	63.4	12.9	57.2			
25	51.9	17.1	57.5			
31.5	55.0	25.6	62.0	69.0	31.8	66,2
40	65.1	30.5	63.1			
50	60.9	30.7	59.6			
63	56.8	30.6	56.0	62.6	34.8	61.5
80	50.9	28.4	50.4			
100	50.9	31.8	50.6			
125	48.5	32.4	48.3	53.7	37.1	53.5
160	46.1	32.7	46. Մ			
200	44.8	33.9	44.8			
250	43.7	35.1	43.7	48.3	39.5	48.3
315	41.5	34,9	41.5			
400	91.4	35.5	41.4			
<u>590</u>	40.9	37.7	40.9	45.3	42.0	45.3
630	39.1	37.2	39.1			
869	39.1	38.3	39.1			
1000	39.3	39.3	39.3	43.6	43.5	43.5
1250	38.1	38.7	38.1	ļ		
1600	36.6	37.7	36.5		ļ	
2000	33.9	35.1	33.7	39.3	40.4	39.1
2500	31.4	32.7	31.0			
3150	29.8	31.0	29.3			
4000	26.3	27.3	25.5	32.1	33.2	31.4
5000	24.1	24.6	22.8			
6300	22.4	22.3	20.4			
8000	21.6	20.5	18.6	27.9	26.5	24.5
10900	24.6	22.1	20.2			

9UERHUL LZUELS 75 - 10000 Hz)

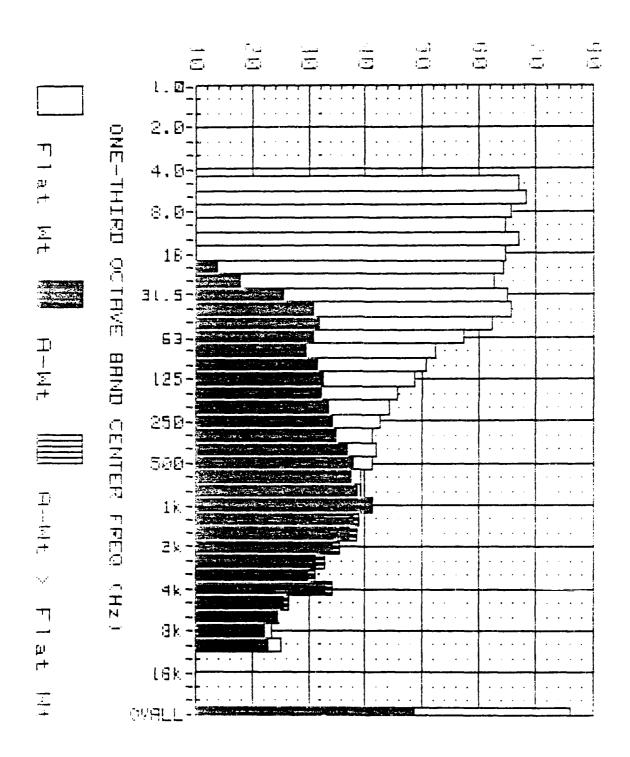


figure 45: Measured Hoise Spectrum (SPL us H-Ut Levels).
Location: H/F321-9 MSS. Elisworth AFB 50.
Tation: To imple: 180 Degrees: Distance: 100 Meters
Logine (131: Power: Background: Temp: 48 Degrees)

Location: Horizon Hi Hospin specification to the Location: Horizon Horizon Horizon Horizon Horizon Location: Horizon Horizon Horizon Horizon Location: Horizon Horizon Horizon Location: Horizon Horizon Location Horizon Location Horizon Location Horizon Location Horizon Location Loca

Station: 16 Angle: 150 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees f Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-MT SOUND LEVEL Cd8(A)]	C-WT SOUND LEVEL CdB(C)J	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)T
5	66.9	0.0	0.0			
6.3	68.4	0.0	0.0			
8	65.5	0.0	0.0	71.2	4.8	50.2
10	64.5	0.0	50.2			
12.5	66.8	3.4	55.6			
16	54.7	8.0_	56.3	70.2	15.1	51.5
20	64.3	13.8	58.1			
25	62.5	17.7	58.1			
31.5	64.8	25.4	61.8	69.2	32.2	<u> 55.5</u>
40	65.6	31.0	63.6			
50	62.2	32.0	60.9			
63	57.1	30,9	56.3	63.7	35.7_	62.6
80	52.1	29.6	51.6			
100	50.6	31.5	50.3			
125	48.6	32.5	48.4	53.5	36.9	53,3
160	45.7	32.3	45.6			
200	44.3	33,4	44.3			
250	42.7	34.1	42.7	47.7	38.9	47.7
315	41.3	34.7	41.3			
400	41.7	36.9	41.7			
500	41.1	37,9	41.1	45.6	42.2	45.
639	39.3	37.4	39.3			
800	39.3	38.5	39.3			
1900	71.1	41.1	41.!	44.5	44.4	44.5
1250	<u> 38.4</u>	39.0	38.4			·
1500	37.5	38.5	37.3			
2000	34.3	35.5	34.1	39.9	41.0	39.7
2500	31.7	33.0	31.4			
3150	30.0	31.2	29.5			
4000	33.2	34.2	32.4	35.4	36.4	34.6
5000	26.0	26.5	24.6			
6300	24.4	24.3	22.4			
8000	23.4	22.3	20.4	29.2	28.0	26,1
19000	25.2	22.7	20.8			

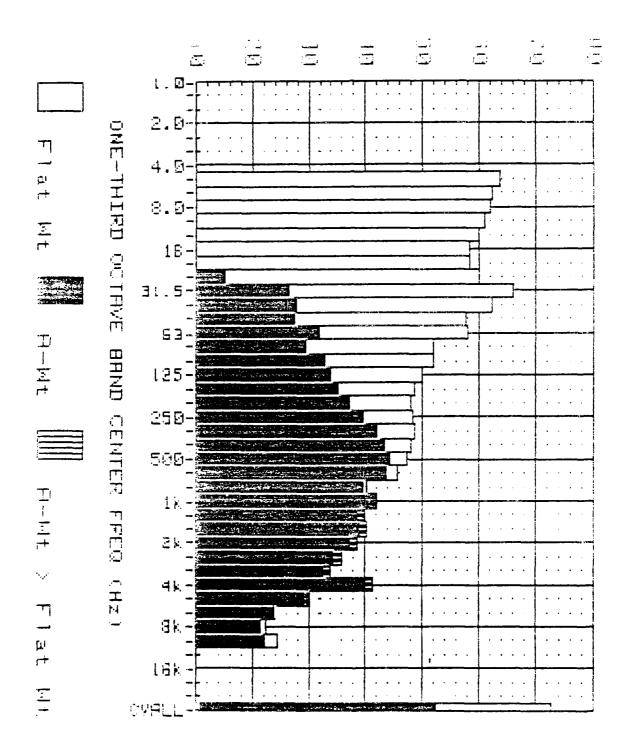


Figure %6: Measured Hoise Spectrum (SPL vs A-Ut Levels).
Location: ouf 52(-9 MSS. Elisworth AFB SD.
Lition: () modific tell Degreest Distance: 109 Meters
Lugine: () of Fower: Background; (emp: 48 Degrees)

Station: 17 Hingle: 160 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL EAB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-WT OCTAVE BAND SL EdB(C)7
5	63.7	0.0	0.0			
6.3	62.4	0.0	0.9			
8	62.0	9.0	0.0	66.6	4.8	45.5
10	60.8	0.0	46.5			
12.5	60.1	0.0	48.9			
15	58.3	1.6	49.8	63.8	9.3	55.3
20	58.4	7,9	52.2			
25	50.0	15.2	55.6			
31.5	55.8	25.4	62.8	68.1	30.3	65.0
40	62.4	27.8	60.4			
50	57.6	27.4	56.3			
63	57.9	31.7	57.1	61.3	34.6	60.3
80	51.9	29.4	51.4			
100	51.9	32.8	51.6			
125	49.8	33.7	49.6	55.1	38.8	54.9
160	48.6	35.2	48.5		·····	
290	48.0	57.1	48.0			
250	48.1	39.5	49.1	53.0	44,9	53.0
315	48.6	42.0	48.5			
400	वस् व	45.1	47.9			
589	47.3	44.1	47.3	51.8	49.4	51.9
630	45,4	43,5	45.4			
860	40.5	39.5	40.3			
1000	41.8	41.9	41.8	45.3	45.2	45.3
1250	39.0	39.6	39.0			
1600	39.1	40.1	39.0			
2000	37.4	<u>38.7</u>	37.2	42.2	43.3	42.0
2500	34.6	35,9	34.4			L
3150	32.8	34.0	32.3			
4000	40.1	41.1	39.3	41.1	42.1	40.3
5000	29.4	29.9	28.1			
6300	23.8	23.7	21.8			
8000	22.5	21.5	19.5	28.5	27.3	25,4
10000	24.5	22.1	20.2			

 085PL * 72.5 d6
 085LA = 52.6 d8(A)

 085LA = 52.6 d8(A)
 0.4 08LB = +14.8

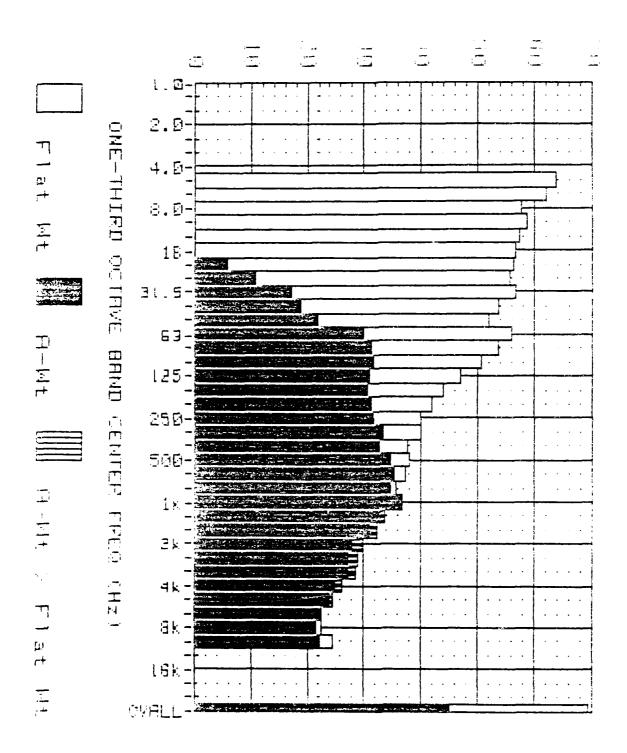


Figure 47: Prosured Moise Spectrum (SPL vs H-W) Levels).

Focation: d. 9321-9 MSS. Elloworth HLB SD.

Stitles: 17 Holls: 170 Degrees: Vistance: 100 Metore

Journel : 100: Fruer- Suckground: Temp: 4d Degrees f

where \mathbb{R}^n is the constant of the constan

Station: 18 Angle: 170 Degrees; Distance: 100 Meters Engine: F101; Power: Background; Temp: 48 Degrees F Bar Press: 899.3 mBar; Rel Humidity: 72%; Winds: 8 Knots

FREQ (Hz)	SOUND PRESSURE LEVEL (dB)	A-WT SOUND LEVEL CdB(A)]	C-WT SOUND LEVEL EdB(C)]	OCTAVE BAND SPL (dB)	A-WT OCTAVE BAND SL EdB(A)]	C-UT OCTAVE BAND SL EdB(C)3
5	63.8	0.0	0.0			
6.3	62.1	ຍ. ກ	0.0			
8	57.6	0.0	0.0	64.6	4.8	44.2
10	58.5	0.0	44.2			
12.5	57.3	0.0	46.0			
16	56.8	. 1	48.3	61.6	7.7	53.3
20	56.4	5,9	50.2			
25	55.6	10,9	51.2			
31.5	56.7	17.3	53.7	60.2	21.5	57.1
40	53.6	19.0	51.6			
50	52.1	21,9	50.8			
63	56.1	29.9	55.3	59.1	33.9	58.2
80	53.7	31.2	53.2			
100	50.7	31.6	50.4			
125	46.8	30.7	46.6	52.8	35.7	52.5
160	43.9	30.5	43.8			
200	42.0	31.1	42.0			
250	40.0	31.4	40.0	45.5	36.8	45.5
315	39.8	<u>33,2</u>	39.8			
400	37.4	32.5	37.4			
500	37.8	34.6	37.8	42.2	39 1	1.7
530	37.0	35, 3	37.2			
(dif)	:5.5	34.7	35.5			
1,3990	35.5	36.5	36.5	40.0	39,9	48.9
1.050	34.9	33.5	32, 9			
1500	31.4	32.4	31.3			
2000	29.3	29.5	29.1	34.2	35.3	34.0
2500	27.5	28.9	27.3			
3150	27.4	28.6	26.9			
4000	25.2	<u> 16,2</u>	24.4	30.6	31.5	29.8
5000	24.1	24.5	22,8			
5500	22.4	12.3	20,4			
संस्ता	***********	11.5	19.5	29.1	26.8	24.9
Esterett.	i ;	17.1	701.2			

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